

# PPRP

## Environmental Review of the Morgantown Coal Blending/Gypsum Loadout Project

January 2010

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**MARYLAND POWER PLANT  
RESEARCH PROGRAM**

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Maryland Department of Natural Resources

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# Environmental Review of Morgantown Coal Blending/Gypsum Loadout Project

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## *FOREWORD*

This report was prepared under the direction of Shawn Seaman at the Maryland Department of Natural Resources, Power Plant Research Program (PPRP). Under contract to PPRP, the following individuals were responsible for conducting the work associated with this environmental review:

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## *ABSTRACT*

On August 1, 2008, Mirant Mid-Atlantic, LLC (Mirant) applied to the Maryland Public Service Commission (PSC) for a Certificate of Public Convenience and Necessity (CPCN) to install and operate coal blending and gypsum barge loadout facilities at the Morgantown Generating Station. The Department of Natural Resources (DNR) Power Plant Research Program (PPRP), coordinating with other State agencies, performed an environmental review of the Morgantown project as part of the PSC licensing process, pursuant to Section 3-304 of the Natural Resources Article of the Annotated Code of Maryland (PSC Case Number 9148). DNR used the analysis of potential impacts as the basis for establishing licensing conditions for operating the proposed facility, pursuant to Section 3-306 of the Natural Resources Article. DNR's recommendations were made in concert with the Departments of Environment, Agriculture, Transportation, and Business and Employment Development, the Maryland Energy Administration, and the Maryland Office of Planning.

This report describes PPRP's evaluation of the environmental and socioeconomic impacts of the Morgantown Coal Blending/Gypsum Loadout Project. The report summarizes the results of the evaluation, and presents the licensing conditions which have been incorporated into the CPCN for the facility. The report was provided as an exhibit in Case No. 9148 and formed the basis for the recommendations made by the State agencies in the case. The document includes the following:

- Description of the proposed project;
- Discussion of existing environmental and socioeconomic conditions at the site and in the vicinity; and
- Analysis of the potential air quality, surface water, biological, ground water, socioeconomic, cultural, and noise impacts from the proposed project.

At the conclusion of this case, the PSC granted a CPCN to Mirant in January 2009, including licensing conditions recommended by the State agencies, under PSC Order No. 82423.

## TABLE OF CONTENTS

### FOREWORD

### ABSTRACT

I

### EXECUTIVE SUMMARY

ES-I

## 1.0 INTRODUCTION

1-1

### 1.1 BACKGROUND

1-1

### 1.2 DESCRIPTION OF THE EXISTING FACILITY

1-3

### 1.3 REVIEW OF OTHER RECENT PROJECTS AT MORGANTOWN

1-3

### 1.4 DESCRIPTION OF THE PROPOSED PROJECT

1-6

#### 1.4.1 Coal Blending Facilities

1-6

#### 1.4.2 Gypsum Loadout Facilities

1-8

### 1.5 REPORT ORGANIZATION

1-9

## 2.0 EXISTING SITE CONDITIONS

2-1

### 2.1 WATER RESOURCES

2-1

#### 2.1.1 Ground Water

2-1

#### 2.1.2 Surface Water

2-1

#### 2.1.3 Potable Water Supply and Wastewater Treatment

2-2

#### 2.1.4 Storm Water Management

2-2

### 2.2 CLIMATE AND AIR QUALITY

2-3

#### 2.2.1 Weather and Climate

2-3

#### 2.2.2 Ambient Air Quality

2-4

### 2.3 BIOLOGICAL RESOURCES

2-8

#### 2.3.1 Vegetation and Land Cover

2-8

#### 2.3.2 Aquatic Wildlife

2-9

#### 2.3.3 Terrestrial Wildlife

2-10

#### 2.3.4 Threatened and Endangered Species

2-12

### 2.4 REGIONAL SOCIOECONOMIC SETTING

2-13

#### 2.4.1 Employment and Income

2-14

#### 2.4.2 Population Trends

2-15

#### 2.4.3 Land Use

2-15

2.4.4	<i>Transportation</i>	2-18
2.4.5	<i>Public Safety</i>	2-20
2.4.6	<i>Cultural and Historic</i>	2-22
<b>3.0</b>	<b>AIR QUALITY IMPACTS</b>	<b>3-1</b>
<b>3.1</b>	<b>IMPACT ASSESSMENT BACKGROUND AND METHODOLOGY</b>	<b>3-1</b>
3.1.1	<i>Overview</i>	3-1
3.1.2	<i>Regulatory Considerations</i>	3-1
<b>3.2</b>	<b>DESCRIPTION OF PROPOSED EMISSIONS SOURCES</b>	<b>3-2</b>
3.2.1	<i>Coal Blending Facilities</i>	3-2
3.2.2	<i>Gypsum Loadout Facilities</i>	3-7
<b>3.3</b>	<b>PROPOSED PROJECT SOURCE CHARACTERIZATION</b>	<b>3-10</b>
3.3.1	<i>Background on Air Emissions From Project Operations</i>	3-10
3.3.2	<i>Particulate Matter Emissions</i>	3-10
3.3.3	<i>Hazardous Air Pollutant Emissions</i>	3-16
3.3.4	<i>Toxic Air Pollutant Emissions</i>	3-17
3.3.5	<i>Construction Emissions</i>	3-18
<b>3.4</b>	<b>APPLICABILITY OF NEW SOURCE REVIEW (NSR) REGULATIONS</b>	<b>3-19</b>
3.4.1	<i>Applicability of PSD Regulations</i>	3-20
3.4.2	<i>Applicability of NA-NSR Regulations</i>	3-21
<b>3.5</b>	<b>APPLICABLE REQUIREMENTS REVIEW</b>	<b>3-22</b>
3.5.1	<i>Federal Requirements</i>	3-22
3.5.2	<i>State Requirements</i>	3-25
<b>4.0</b>	<b>IMPACTS TO OTHER RESOURCES</b>	<b>4-1</b>
<b>4.1</b>	<b>IMPACTS TO WATER SUPPLY, DISCHARGES AND STORM WATER</b>	<b>4-1</b>
4.1.1	<i>Surface Water – Lower Potomac River</i>	4-1
4.1.2	<i>Ground Water Usage</i>	4-1
4.1.3	<i>Storm Water</i>	4-1
4.1.4	<i>Wastewater</i>	4-2
4.1.5	<i>Construction Dewatering</i>	4-2
<b>4.2</b>	<b>BIOLOGICAL RESOURCE IMPACTS</b>	<b>4-3</b>
4.2.1	<i>Impacts to Vegetation and Land Cover</i>	4-3
4.2.2	<i>Impacts to Wetlands</i>	4-3
4.2.3	<i>Impacts to Wildlife</i>	4-3
4.2.4	<i>Impacts to Threatened and Endangered Species</i>	4-4

<b>4.3</b>	<b>SOCIOECONOMIC AND CULTURAL IMPACTS</b>	<b>4-4</b>
4.3.1	<i>Employment and Income</i>	4-4
4.3.2	<i>Population and Housing</i>	4-4
4.3.3	<i>Land Use</i>	4-4
4.3.4	<i>Transportation</i>	4-5
4.3.6	<i>Fiscal Impacts</i>	4-7
4.3.5	<i>Visual Quality</i>	4-8
4.3.7	<i>Cultural Impacts</i>	4-8
<b>4.4</b>	<b>NOISE IMPACTS</b>	<b>4-9</b>
<b>5.0</b>	<b>SUMMARY AND RECOMMENDATIONS</b>	<b>5-1</b>
<b>5.1</b>	<b>SUMMARY</b>	<b>5-1</b>
5.1.1	<i>Air Quality</i>	5-1
5.1.2	<i>Water Resources</i>	5-1
5.1.3	<i>Biological Resources</i>	5-2
5.1.4	<i>Socioeconomic Impacts</i>	5-2
5.1.5	<i>Noise Impacts</i>	5-3
<b>5.2</b>	<b>RECOMMENDATIONS</b>	<b>5-4</b>

**APPENDICES**

***A – Final Order #82423 and Licensing Conditions***

***B – Backup Emissions Calculation Information***

***C – Detailed Applicability Review for Federal and State Air Quality Regulations***



## *EXECUTIVE SUMMARY*

On August 1, 2008, Mirant Mid-Atlantic, LLC (Mirant) applied to the Maryland Public Service Commission (PSC) for a Certificate of Public Convenience and Necessity (CPCN) to install and operate coal blending and gypsum barge loadout facilities at the Morgantown Generating Station. This project is identified as PSC Case No. 9148.

The Coal Blending/Gypsum Loadout Project facilities are part of Mirant's overall plan to comply with the Maryland Healthy Air Act (HAA) and other pollution control requirements, and are being installed for two primary reasons. First, the coal blending operations are intended to enable Mirant to blend multiple types of coals to match the specifications of the Morgantown boilers and the flue gas desulfurization (FGD) sulfur dioxide scrubbers recently licensed under PSC Case 9085. Second, the gypsum loadout operations are designed to provide a more efficient transport alternative for the export of the FGD scrubber by-product gypsum that will be generated by both the Morgantown and near-by Chalk Point plants. The proposed gypsum barge loadout option at Morgantown may also facilitate the long-term beneficial use of the by-product gypsum generated at Morgantown and Chalk Point which would otherwise be a waste by-product that would need to be landfilled.

The project is one of a series of projects Mirant is implementing at Morgantown to comply with the HAA. In addition to the March 2008 CPCN in PSC Case No. 9085 for installation and operation of the FGD scrubber system, Mirant has received approval in Case 9031 to install a new barge unloading facility at Morgantown and in other recent actions, Morgantown has received approval to install new nitrogen oxides (NO<sub>x</sub>) pollution control systems (selective catalytic reduction or SCR) and to install new pulverizers at the coal units at Morgantown to enable the use of different types of coals. For air quality regulatory review purposes, the evaluation of the currently proposed Coal Blending/Gypsum Loadout Project assumes that: 1) the two proposed activities—coal blending and gypsum loadout—are one single “project” and 2) the proposed Project is not part of any other recently proposed and licensed projects, including the Barge Unloader (Case 9031) and/or the FGD project (Case 9085).

The Maryland Department of Natural Resources (DNR) Power Plant Research Program (PPRP) has conducted a review of the potential environmental and socioeconomic effects of the proposed installation and operation of the Coal Blending/Gypsum Loadout Project and has

summarized the findings in this Environmental Review report. The report is the product of a consolidated review by Maryland State agencies of Mirant's application to the Maryland PSC and serves as technical support of the State's recommended licensing conditions for the Project.

It is concluded that there will be no adverse impacts associated with the installation of the coal blending/ gypsum loadout facilities to surface water or ground water resources. Disturbance of land beyond that which is already developed at the site will be minimal; as such, no impacts are anticipated to threatened and endangered species, or to socioeconomic, aesthetic, or cultural resources because there will be no changes to the land use characteristics of the local area associated with the proposed project.

The Project will have the potential to emit small quantities of particulate matter (PM) and toxic or hazardous air pollutants; however, operating as designed and with the restrictions included in the recommended licensing conditions, the emissions are not predicted to cause any significant adverse impacts to air quality. Projected emission rates will meet applicable federal and State emissions limitations. The emissions of regulated pollutants will not trigger Prevention of Significant Deterioration (PSD), Nonattainment Area New Source Review (NA-NSR), or Hazardous Air Pollutant (HAP) major source permitting requirements.

As a result of the consolidated review, the affected State agencies recommended a set of licensing conditions to the PSC for the installation and operation of Mirant's proposed Coal Blending/Gypsum Loadout Project. At the conclusion of this case, the PSC issued a CPCN to Mirant for the project, and incorporated all of the licensing conditions recommended by the State that were developed through this consolidated review. Appendix A includes a copy of the licensing conditions and the Proposed and Final Order (Order No. 82423) issued by the PSC in this case.

## **1.0 INTRODUCTION**

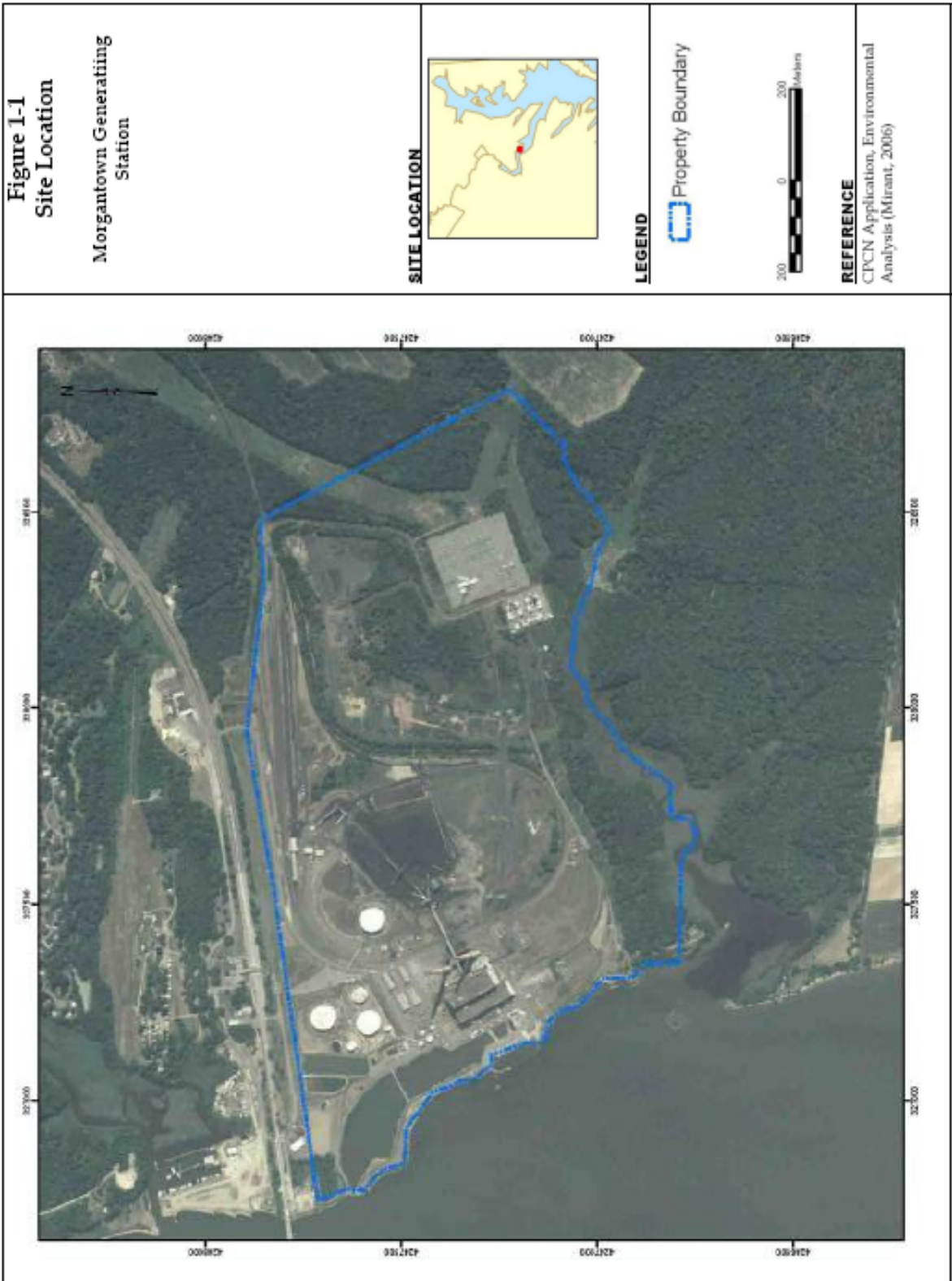
### **1.1 BACKGROUND**

Mirant Mid-Atlantic, LLC (Mirant) has submitted an application to the Maryland Public Service Commission (PSC) to authorize the modification of the Morgantown Generating Station (Morgantown) in Charles County, Maryland (see general location in Figure 1-1). The proposed modification would enable Mirant to install coal blending and gypsum loadout facilities at the Morgantown site. This project is identified as PSC Case No. 9148.

The coal blending facilities will be located in the vicinity of the existing coal storage yards and will consist of new stackout facilities for the south coal yard and new reclaim facilities in both the north and south coal yards. The coal blending system will allow the use of different types of coals at Morgantown in order to match the specifications of the boilers and air quality control equipment. The gypsum loadout facility will be located at the perimeter of the existing storage yards within the plant boundaries. It will be used to provide a more efficient transportation mode to ensure long-term beneficial use of the gypsum by-product created by FGD system operations at Morgantown (licensed under Case 9085) as well as at Mirant's Chalk Point facility.

The Department of Natural Resources (DNR) Power Plant Research Program (PPRP), in coordination with other State agencies, performed this environmental review of the Morgantown Coal Blending/Gypsum Loadout Project as part of the PSC licensing process. Before modifications of the facility can be undertaken, the PSC must grant Mirant a Certificate of Public Convenience and Necessity (CPCN). PPRP's review is being conducted to evaluate the potential impacts of the proposed modification to environmental and cultural resources, pursuant to Section 3-304 of the Natural Resources Article of the Annotated Code of Maryland.

PPRP used the analysis of potential impacts as the basis for establishing initial recommended licensing conditions (presented in Appendix A of this report) for operating the facility with the proposed modifications, pursuant to Section 3-306 of the Natural Resources Article. PPRP's recommendations are made in collaboration with other programs within DNR as well as the Departments of Agriculture, Business and Economic



Development, Environment, Planning, and Transportation, and the Maryland Energy Administration.

## **1.2 DESCRIPTION OF THE EXISTING FACILITY**

The site of the proposed modification is the existing Morgantown Generating Station (Morgantown) on the Potomac River in the southwestern portion of Charles County, Maryland (see Figure 1-1). Mirant acquired the electric generating station and approximately 427 acres of the Morgantown site from PEPSCO, which retained ownership of about 166 acres that are used for electric substations and transmission lines. The existing Morgantown facility consists of two base loaded, 620-MW coal- and residual oil-fired boilers (Units 1 and 2), six No. 2 oil-fired peaking combustion turbines (2x20 MW Frame 5 and 4x65 MW Frame 7), two auxiliary boilers, associated fuel handling and storage facilities, and electric transmission facilities. The gross winter capacity of the Morgantown facility is 1,506 MW. Coal is currently delivered to Morgantown by CSX Transportation Corporation (CSXT) unit trains. Residual oil is delivered to the site by pipeline and No. 2 oil is delivered by barge.

Exhaust gases are released from the coal-fired units through a single 700-foot stack. Current air quality control systems at Morgantown Units 1 and 2, as mandated by prior legislation, consist of hot-side electrostatic precipitators (ESP) to control particulate emissions, and low-NO<sub>x</sub> burners (LNBS) and separated overfire air (SOFA) to control nitrogen oxides (NO<sub>x</sub>) emissions. Selective catalytic reduction (SCR) systems are being installed on each unit to provide additional NO<sub>x</sub> control. The SCR on Unit 1 became operational in 2007; the SCR on Unit 2 is scheduled to be in service in 2008. A flue gas desulfurization (FGD) system for control of sulfur dioxide (SO<sub>2</sub>) and controls for sulfuric acid mist (SAM) emissions will be installed on each unit as well and are scheduled to be in service in 2009. These pollution control systems were the subject of previous CPCN proceedings, described below.

## **1.3 REVIEW OF OTHER RECENT PROJECTS AT MORGANTOWN**

In addition to the Coal Blending/Gypsum Loadout Project being addressed here under Case 9148, several other projects have recently been proposed or approved for construction at Morgantown as part of the company's plan to comply with the Maryland HAA.

**Barge Unloading Project (Case 9031)** – In September 2004, Mirant proposed to construct a new coal barge unloading facility at Morgantown to enable the facility the flexibility to bring in different (specifically, lower sulfur) coals from different suppliers. During 2004 and 2005 and in coordination with other State agencies, PPRP performed a thorough environmental review of the proposed facility and recommended to the PSC approval of the barge unloading project in Case 9031, subject to a series of licensing conditions. On September 19, 2005, the PSC issued a Final Order in the case.

Subsequent to the Order in May 2006, Mirant requested approval to modify the design of the project from a fixed to a traveling unloader, which would necessitate modifying the pier design, and installing an additional coal transfer point. PPRP, again in coordination with other State agencies, reviewed the project amendment and recommended approval of the amendment request to the PSC in December 2006. On July 20, 2007, the PSC issued a Final Order granting the modification request.

On March 31, 2008, Mirant requested an additional modification to the approved barge unloading facility design. The changes would include a reduction in the number of pilings from 130 to no more than 100 pilings to support the dock and slight adjustments in the length and width of the dock platform. These modifications are currently under review by the PSC.

**Air Pollution Control Project (Case 9085)** – In November 2006, Mirant submitted a CPCN application to install air pollution control (APC) equipment at Morgantown in response to the HAA. The project components consisted of air quality control systems, including wet FGD systems and sulfuric acid mist (SAM) controls, and associated enhancements of the facility necessary for the operation of the systems. Once constructed, this project will substantially decrease emissions of SO<sub>2</sub>, fine particulate matter (PM<sub>2.5</sub>), and other air emissions including mercury (Hg). Mirant also received approval to upgrade the pulverizers at Morgantown Unit 2 to provide Mirant greater flexibility to utilize a wider variety of coals. The project also has allocated space for the future installation of activated carbon injection equipment and fabric filter baghouses for the additional control of mercury emissions, if needed.

In August 2007, a Non-unanimous Agreement of Stipulation Settlement was reached by all parties with the exception of Swan Point Property Owners Association, an intervener in the case, and was filed with the PSC. This agreement stated that a CPCN should be issued subject to PPRP's recommended licensing conditions, including revisions made during the

agreement process. One of these revisions allowed for the inclusion of an emergency fire pump as part of the APC project. A proposed order was issued by the PSC on August 21, 2007 adopting all of the recommended conditions in the agreement. This order was appealed by Swan Point on August 28, 2007. After additional negotiation, briefing, and oral argument, the PSC issued a Final Order, which became effective on October 22, 2007 granting the CPCN with all recommended licensing conditions found in the Non-unanimous Agreement, as well as an additional condition regarding sediment sampling.

This project is currently under construction and is scheduled to be completed in November 2009.

**SCR Systems** – In September 2004, Mirant entered into a Consent Decree with the U.S. EPA, the State of Maryland, and the Commonwealth of Virginia (*United States, et al. v. Mirant Potomac River, LLC*; Civil Action No: 1:04CV1136) which requires Mirant to install and operate SCR for NO<sub>x</sub> control systems on Morgantown Units 1 and 2. The Consent Decree required the first of the SCR devices to be installed and operating on Unit 1 no later than May 1, 2007.

Operation of the SCR systems reduces NO<sub>x</sub> emissions substantially, but also has the potential to increase emissions of PM, SAM, and ammonia. Because of the potential for emissions increases, the project would normally require a CPCN prior to construction. However, in the interest of time and to meet the terms of the Consent Decree, Mirant entered into an enforceable agreement with Maryland Department of Environment (MDE) to construct the SCR on Unit 1 under the conditions that there would be no increase in PM emissions and that ammonia “slip” emissions would not exceed 3 parts per million (ppm).

The SCR on Unit 1 was constructed and became operational in 2007 and Unit 2 was constructed and became operational during 2008..

**Unit 1 Pulverizer** – Some of the lower sulfur coals Mirant is considering burning at Morgantown are “harder” than the current design (Northern Appalachian) coal in use at Morgantown. Therefore, to enable Mirant to burn certain different coals, Mirant must upgrade the existing, 1960s vintage pulverizers at Units 1 and 2 that were designed for softer coals. Mirant has been granted permission to begin burning lower sulfur, harder coals during 2008.

Mirant previously requested permission to conduct the Unit 1 pulverizer upgrade during the February 2007 scheduled outage for the Unit 1 SCR

installation. MDE and PPRP reviewed the request and agreed, in a letter dated December 13, 2006 to Mr. Ray Bourland, PSC, that the project could proceed subject to conditions to ensure that there would be no emissions increases or other substantive impacts. That is, Mirant was prohibited from burning coals that could not previously be accommodated by the pulverizers and was prohibited from increasing the amount of coal to be burned in the unit (either on a ton per hour or million Btu per hour basis) without obtaining CPCN authorization for those activities. As part of Case 9085, Mirant requested approval to complete the pulverizer upgrade at Unit 2, and to burn coals (e.g., Central Appalachian or South American) that the original pulverizers could not previously accommodate.

## **1.4 DESCRIPTION OF THE PROPOSED PROJECT**

The proposed modification of Morgantown consists of the installation of coal blending and gypsum loadout facilities as presented in Mirant's CPCN application<sup>1</sup>. During the course of PPRP's project review, Mirant introduced the possibility of amending its CPCN application to include a coal crusher, an additional transfer point, and a baghouse. Mirant later stated that it had reconsidered this option and was no longer planning on amending the application. Accordingly, the State's review does not include an analysis of any new project components aside from those presented in Mirant's original CPCN application dated July 2008.

Construction of the coal blending/gypsum loadout project was planned to be concurrent with the previously licensed air pollution control project (Case 9085), which called for construction during the 2008 to 2009 timeframe. Construction is expected to last about 9 months and is anticipated to begin in late 2008 and be completed in 2009 prior to the FGD system startup. Acceptance testing is currently being conducted within the FGD system with plans for the unit to become fully operational by January 2010.

### **1.4.1 Coal Blending Facilities**

The coal blending facilities will be installed to allow for the use of different types of coals to match the specifications of the boilers and air quality control equipment already installed, as well as that being

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<sup>1</sup> Mirant Mid-Atlantic, LLC., 2008. Application for CPCN Authorizing Modification of the Morgantown Generating Station; Environmental Analysis. Prepared by Golder Associates, Inc. Gainesville, FL. July, 2008.



constructed. This will allow for fuel flexibility to assist Mirant in complying with State-mandated SO<sub>2</sub> emission reduction requirements. The coal blending project components include:

- New stackout facilities in the existing south coal yard, including two new transfer points;
- Underground reclaim facilities in both the existing south and north coal yards;
- Reclaim transfer points to integrate the reclaim from the south and north coal yards;
- Refurbished and upgraded emergency reclaim system; and
- Enclosed transfer locations with dust suppression.

The coal blending facilities will include a new transfer point located near the existing coal sampling building and new aboveground conveyors in the south coal yard. The conveyors will be connected to three new transfer points, such that coal can be routed to the storage piles. The north coal yard will utilize existing equipment for the placement of coal. In addition, new below-ground reclaim tunnels will be installed under the north and south coal yards. Coal originating from these tunnels will be fed to Units 1 and 2 via new transfer points and then the existing conveyor system. The existing coal storage areas will not be expanded as part of this project.

Coal from either rail or barge (once the barge unloading facilities licensed previously are complete) will be conveyed to the north and south coal yards using the existing 48-inch conveyor from the barge unloading facilities or a 72-inch conveyor from the rail unloading facilities. In-line analyzers installed on the conveyors will determine the stockpile to which the coal will be routed. These analyzers measure the ash and moisture contents as well as perform an elemental analysis of the coal.

Upon arrival, the coal will also be routed to the existing sampling building station. A modification will be made to allow incoming coal to be unloaded and segregated simultaneously. Coal can then be stockpiled using the existing stacker/reclaimer in the north coal yard. This same stacker/reclaimer may also be used to stockpile coal in the south coal yard during emergency circumstances. For the stockpiling of coal in the south coal yard, three new conveyors and three new transfer stations will be constructed. Automatic dust suppression will be included in these enclosed transfer stations.

Coal will be reclaimed from the three stockpiles in the north or south coal yards using weigh belt feeders installed underground in concrete tunnels beneath the stockpiles. These feeders are controlled (manually or automatically) by variable frequency to operate at rates of 75 to 800 tons per hour (TPH). Coal from the north coal yard's reclaim tunnel will travel along two new conveyors and through a new transfer tower. Coal from the south coal yard's reclaim tunnel will travel through an additional transfer tower along two separate new conveyors. Coal from both yards will then be sent to a common transfer tower and along a modified existing conveyor to the existing transfer building. Coal may be reclaimed using the same flow path using the refurbished emergency reclaim system.

A more detailed description of the coal blending facilities is provided in Section 3.2.

#### **1.4.2**      *Gypsum Loadout Facilities*

A new gypsum barge loadout facility will be constructed to handle the gypsum created during the operation of Morgantown Units 1 and 2 FGD systems, as well as gypsum originating from the Chalk Point Generating Station. The gypsum from Chalk Point will be transported to the Morgantown site by railcar. The primary purpose of the loadout facilities is to assist in the long-term beneficial use of the gypsum, which would otherwise be a waste by-product, by providing an alternative mode of transportation for the material. Mirant suggests that barge transportation is required to support a 20-year contract with a vendor to utilize the gypsum in wallboard production.

The gypsum loadout project includes the following components:

- New 1,000-TPH conveyor material handling system;
- Five new enclosed transfer towers;
- One tripper conveyor system located on the existing pier (from Case 9031);
- One telescoping barge loadout conveyor;
- Rail unloading facility; and
- New rail unloading hopper and 24-inch conveyor to support the transport of gypsum from Chalk Point to the barge loadout area.

The gypsum loadout facilities will include seven conveyors and five transfer towers that will be installed to transfer gypsum from storage to

barges located at the coal unloading pier. The conveyors range in length from 95 to over 1,000 feet and are fully enclosed to minimize dust formation, with the exception of the tripper conveyor located on the coal barge unloading pier, which is uncovered. Four of the five new transfer towers are fully enclosed with Transfer Tower 01, which is enclosed on three sides with a roof. The shuttle conveyor, which is connected to the tripper conveyor, is to be located on the tripper car assembly point on the pier and will be used to transport gypsum to the center line of a docked barge and then load the gypsum into it. The tripper car will be systematically moved until the barge is filled. An automatic telescoping chute will be located at the end of the conveyor for dust control. At capacity, all conveyors are capable of transporting gypsum at a rate of 1,000 TPH (350 feet per minute).

New rail unloading facilities will also be installed as part of the gypsum handling project to allow the barge transport of gypsum delivered to the Morgantown site via rail from Chalk Point. The equipment associated with the new facilities includes a new rail unloading hopper and an approximately 250-foot conveyor with a 24-inch belt width to transfer gypsum from the rail hopper to the existing gypsum storage dome.

A more detailed description of the gypsum loadout facilities will be provided in Section 3.2.

## 1.5

### ***REPORT ORGANIZATION***

This report details the evaluations that PPRP has conducted related to Mirant's application for a CPCN for the proposed modifications. The information is organized into the following sections:

- Section 2 provides a description of the existing site conditions, including water resources, climatology and air quality, biological resources, and the regional socioeconomic setting.
- Section 3 discusses the project's impacts on air quality and associated regulatory requirements.
- Section 4 examines other environmental impacts that the project may have on the surrounding area, in particular to ecological, socioeconomic, and cultural resources, as well as the acoustic environment.
- Section 5 provides a summary of issues and recommendations.

## 2.0 *EXISTING SITE CONDITIONS*

This section provides a brief overview of existing conditions at the Morgantown site. More detailed descriptions of existing site conditions are found in PPRP's Environmental Review Documents for the Morgantown Barge Unloading Case 9031 and Air Pollution Control (APC) project Case 9085.

### 2.1 *WATER RESOURCES*

#### 2.1.1 *Ground Water*

The major aquifers beneath the Morgantown site include the Aquia, Magothy, and Patapsco, which are tapped by large volume municipal and industrial ground water production wells. In the case of the Aquifer and Magothy formations, the term aquifer applies to the entire formation. The Patapsco has been further delineated into the upper and lower aquifer.

Mirant uses ground water at Morgantown for boiler makeup and miscellaneous operations. The Morgantown facility is currently authorized by MDE to withdraw ground water from four wells completed at depths of about 1,300 feet in the Lower Patapsco aquifer [permit CH1967G011(10)]. The water appropriation limit allows for a daily usage of 700,000 gallons per day (0.7 million gallons per day, mgd) on average of ground water, or the equivalent of 255 million gallons per year withdrawal. The 2004 water withdrawal at Morgantown was 210 million gallons, which translates to an average of 576,000 gallons per day.

#### 2.1.2 *Surface Water*

The Morgantown facility is located on the banks of the Potomac River, at a point where the river is approximately 1.5 miles wide. The average annual freshwater discharge is approximately 13,400 cubic feet per second (cfs), with a spring tidal flow of 220,000 cfs downstream during the ebb stage and upstream during the flood stage. Water depths in the River vary from approximately 82 feet midway in the channel to 10 feet at the channel edge. At the Morgantown facility, a dredged channel stretches a distance of 1,200 feet perpendicularly out from the power plant and varies in width from 200 to 260 feet. It was originally dredged to a depth of 50 feet; however, a recent hydrographic survey performed by Mirant shows that the channel is currently at a maximum depth of 40 feet.

Since 1985, continuous monitoring of selected water quality parameters (clarity, dissolved oxygen, salinity, temperature, and pH) has taken place in the Lower Potomac River at the Governor Harry W. Nice Memorial Bridge.<sup>2</sup> Water quality parameters for 2006 were within the minimum and maximum range for 1985 to 2005, and were for the most part similar to the mean value for 1985 to 2005.

In 2006, the Potomac River was designated as an American Heritage River.<sup>3</sup> The Potomac River has been subdivided into upper, middle and lower basins. The 60-mile stretch of the Lower Potomac, from the mouth of the river at Chesapeake Bay to the U.S. 301 Bridge near Morgantown, is a broad tidal estuary. The area of Charles County along the River is mainly considered part of the Lower Tidal Potomac River Basin watershed. In the vicinity of the site, the river's salinity rises and there is an increased presence of blue crabs and oysters, accordingly.<sup>4</sup>

Two units at Morgantown use once-through cooling, in which water is continuously drawn from the Potomac River, used for process cooling, and then continuously returned to the river. Morgantown has a surface water appropriations permit [CH1956S003(08)] from MDE Water Management Administration that allows for the withdrawal of 1,500 mgd from the Potomac River. In 2004, an average of 1,094 mgd was withdrawn from the river for the once-through cooling system.

### **2.1.3 *Potable Water Supply and Wastewater Treatment***

Potable water is obtained from on-site wells. Sanitary wastewater is treated at an existing sanitary wastewater treatment plant.

### **2.1.4 *Storm Water Management***

The Morgantown facility currently discharges site storm water runoff to the Potomac River and to Pasquahanza Creek under the facility's existing NPDES Permit No. MD000674. This permit regulates the discharge of biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), fecal coliform, total copper, total iron, oil and grease, pH, and thermal discharge.

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<sup>2</sup> <http://mddnr.chesapeakebay.net>

<sup>3</sup> Charles County, 2006. Economic Development: Charles County, MD. Volume 1, Issue 1. 2006-2006 Report. La Plata, Maryland.

<sup>4</sup> Mirant Mid-Atlantic, LLC., 2006. Application for CPCN Authorizing Modification of the Morgantown Generating Station; Environmental Analysis. Prepared by Golder Associates, Inc. Gainesville, FL. October 13, 2006.

The facility's existing Storm Water Pollution Prevention Plan (SWPPP) minimizes discharges of potential contaminants from facility storm water runoff. All storm water runoff from industrial areas is collected and treated in storm water detention basins prior to discharge. Storm water from all new permanent project areas will be collected and routed to that system for treatment prior to discharge. The existing SWPPP employs "Best Management Practices" (BMPs) to minimize potential pollutant loading.

## 2.2 *CLIMATE AND AIR QUALITY*

### 2.2.1 *Weather and Climate*

The discussion of climatology of the area is based primarily on data from Ronald Reagan Washington National Airport (DCA), which is the closest National Weather Service (NWS) station to the Morgantown site. The closest meteorological station to the site with upper air data is the NWS station at Sterling, Virginia. DCA climate data cited in this section is from NOAA 1995<sup>5</sup>, unless otherwise specified. DCA is located approximately 35 miles north of the Morgantown facility, and is considered representative of the area.

The climate in the vicinity of the Morgantown site is temperate with four defined seasons. According to the Maryland State Climatology Office<sup>6</sup> the mean annual temperature in Maryland ranges from about 48°F in the Charles County area to 58°F in the lower Chesapeake Bay area. The average frost penetration in Charles County is approximately five inches or less, although in extremely cold winters, maximum frost penetration may be double the average depth. Summer is characterized by considerable warm weather including at least several hot, humid periods. The average length of the freeze-free season, based on a minimum temperature higher than 32°F, is approximately 230 days. The extreme temperatures in Maryland range from -40 to +109°F, each extreme occurring, on average, once every 75 to 100 years. Lowest yearly temperatures tend to occur in January, while highest temperatures occur in July and August.

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<sup>5</sup> "Local Climate Data Annual Summaries for 1995, Part I Eastern Region," as published by the National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Service, and National Climatic Data Center.

<sup>6</sup> Maryland State Climatology Office, 2006. MD State Climatology Website: <http://www.atmos.umd.edu/~climate/>. 2006.

The average annual precipitation in Charles County ranges between 40 and 46 inches. Distribution is quite uniform throughout the year on a state-wide basis, averaging between 2 and 4 inches each month except for a late spring and summer maximum of 4 to 5-1/2 inches. Thunderstorms are relatively common, occurring about 29 days during an average year. Thunderstorms have occurred throughout the year, but about 58 percent occur from June through August. Tornadoes are much rarer. In the Morgantown vicinity, there is a two percent chance of occurrence for tropical storms of hurricane strength. Tropical storms have generally approached the area during the period of late August to late October.

The average annual wind speed at DCA is 9.4 miles per hour. Based on wind data at DCA from 1991-1995, prevailing winds are from the south. A wind rose of DCA wind measurements based on data from 1991 through 1995 is presented in Figure 2-1.

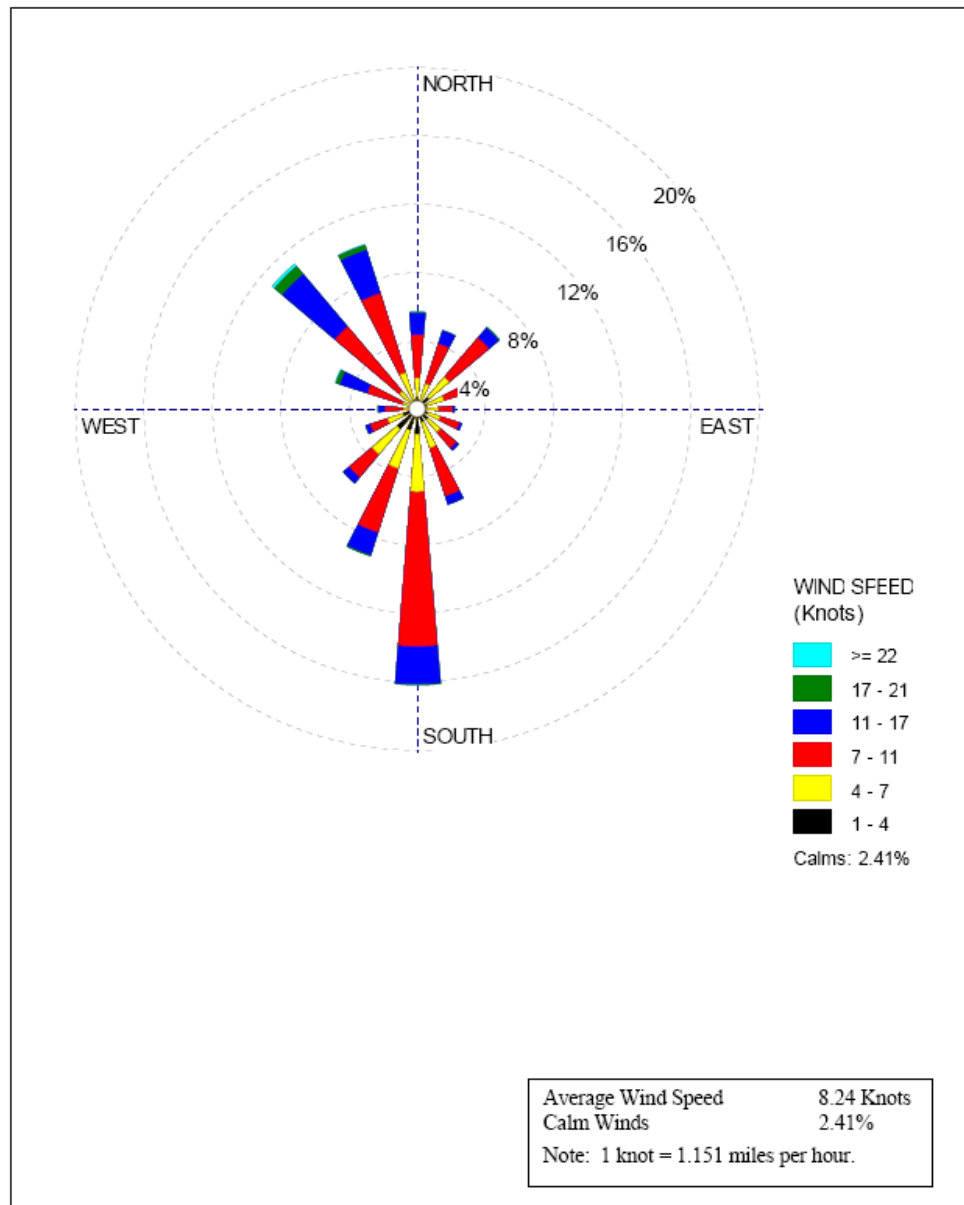
## 2.2.2 *Ambient Air Quality*

### 2.2.2.1 *Existing Ambient Air Quality Standards and Designations*

MDE monitors concentrations of the “criteria” pollutants (NO<sub>x</sub>, SO<sub>2</sub>, PM, ozone, CO, and lead) at various locations across the United States near ground level. If monitoring indicates that the concentration of a pollutant exceeds the National Ambient Air Quality Standard (NAAQS) in any area of the country, that area is labeled a “nonattainment area” for that pollutant, meaning that the area is not meeting the ambient standard. Conversely, any area in which the concentration of a criteria pollutant is below the NAAQS is labeled an “attainment area” indicating that the NAAQS is being met.

The attainment/nonattainment designation is made by states and EPA on a pollutant-by-pollutant basis. Therefore, the air quality in an area may be designated attainment for some pollutants and nonattainment for other pollutants at the same time. For example, many cities are designated nonattainment for ozone, but are in attainment for the other criteria pollutants.

**Figure 2-1 5-Year Annual Wind Rose for 1991 to 1995 at Reagan National Airport (DCA), VA (Station No. 13743)**



Source: National Climatic Data Center, 1991 – 1995; Mirant’s CPCN application, 2008.

Since the late 1980s, the NAAQS for PM covered “PM<sub>10</sub>,” which represents PM less than 10 microns in diameter. In 1997, EPA revised the NAAQS for PM and added a standard for a new form of PM known as PM<sub>2.5</sub>, PM less than 2.5 microns in diameter. PM<sub>2.5</sub>, or “fine particulates,” are of concern because the particles’ small size allows them to be inhaled deeply



into the lungs. In December 2004, EPA published its designations of PM<sub>2.5</sub> nonattainment areas.

EPA and states make attainment designations based on air quality surveillance programs that measure pollutants in a network of nationwide monitoring stations known as the State and Local Air Monitoring Stations (SLAMS), National Air Monitoring Stations (NAMS), and Photochemical Monitoring Stations (PAMS).<sup>7</sup>

#### 2.2.2.2 *Local Air Quality*

At the time of this case, all of the State of Maryland, including Charles County, is in attainment of the NAAQS for all criteria pollutants with the exception of ozone and PM<sub>2.5</sub>. Some counties in Maryland are designated ozone attainment areas and some are nonattainment areas; however, because ozone is a regional issue, EPA treats the northeastern United States, from northern Virginia to Maine, as an ozone nonattainment area known as the Northeast Ozone Transport Region. Charles County is a designated “moderate” ozone nonattainment area (on a scale that ranges from worst to best air quality of extreme – severe – serious – moderate – marginal).

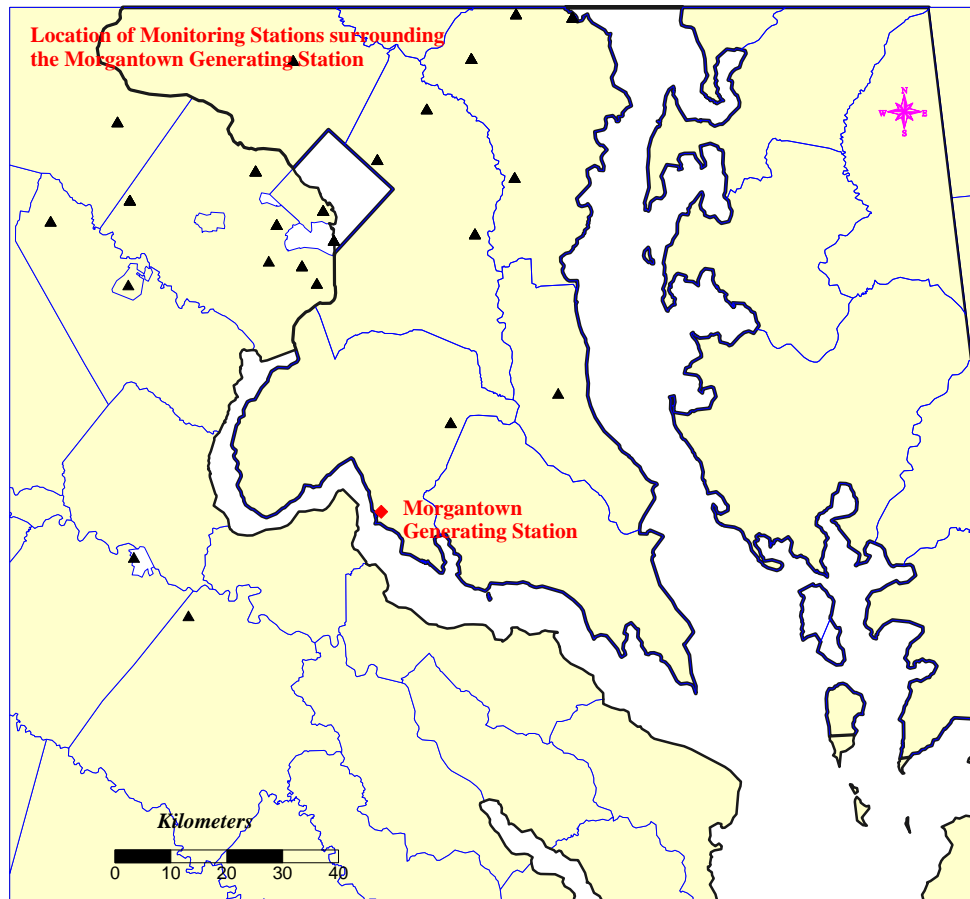
Figure 2-2 illustrates ambient air quality monitoring stations in and adjoining to Charles County, operated under the SLAMS network. The monitoring data are maintained by EPA’s AIRS database and are available from the EPA website<sup>8</sup>. Table 2-2 presents the existing ambient air concentrations for ozone and PM<sub>2.5</sub> near Morgantown. The existing ambient air concentrations in Charles County and Prince George’s County, MD are below the NAAQS for both 24-hour and annual averages of PM<sub>2.5</sub>; however, air quality in both counties exceed the 8-hour ozone NAAQS. King George’s County, which is located just across the Potomac River from Morgantown, does not have a monitoring station.

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<sup>7</sup> United States Environmental Protection Agency (USEPA), 1998. SLAMS/NAMS/PAMS Network Review Guidance. U.S. EPA Office of Air Quality Planning and Standards. EPA-454/R-98-0003; <http://www.epa.gov/ttn/amtic/files/ambient/criteria/reldocs/netrev98.pdf>.

<sup>8</sup> United States Environmental Protection Agency (USEPA) AIRS database. Available online: [www.epa.gov/air/data/](http://www.epa.gov/air/data/)

Figure 2-2 Location of Pollutant Monitoring Stations In and Around Charles County



**Table 2-2 Summary of Monitoring Data for Ozone and PM<sub>2.5</sub> Near Morgantown**

		Ozone (O <sub>3</sub> ) <sup>1, 2, 4</sup>		PM <sub>2.5</sub> <sup>2</sup>	
		8-hr		24-hr <sup>5</sup>	Annual <sup>6</sup>
Location <sup>3</sup>	Year	County	0.08	65	15
A	2004	Charles	0.083	---	---
A	2005	Charles	0.089	---	---
A	2006	Charles	0.085	---	---
B	2004	Prince George's	---	17	9.8
C	2004	Prince George's	---	38	12.6
C	2005	Prince George's	0.085	32	13.4
C	2006	Prince George's	0.086	34	11.5
D	2004	Prince George's	---	28	12.4
D	2004	Prince George's	0.086	38	13.3
D	2005	Prince George's	0.092	31	13.8
D	2005	Prince George's	---	32	13.3
D	2006	Prince George's	0.095	33	12.2
D	2006	Prince George's	---	33	12.5

Notes:

1. Shaded values indicate exceedances of NAAQS.
2. Ozone concentration is in ppm; PM<sub>2.5</sub> concentrations are in µg/m<sup>3</sup>.
3. Separate monitoring locations are indicated by different letters.
4. Ozone concentration represents the fourth maximum value at a particular location.
5. PM<sub>2.5</sub> 24-hour value represents the 98th percentile value.
6. PM<sub>2.5</sub> mean annual value.
7. --- indicates the data is not available.

## 2.3 BIOLOGICAL RESOURCES

### 2.3.1 Vegetation and Land Cover

Approximately half of the Morgantown site is found within the Chesapeake Bay Critical Area, which is defined as all land within 1,000 feet of mean high water (MHW) or the landward edge of tidal wetlands and all waters of and lands under the Chesapeake Bay and its tributaries. Any development within this area is required to minimize adverse

impacts on water quality and conserve fish, wildlife, and plant habitats. The proposed project will be constructed over water and on land previously developed as part of the Morgantown facility. The area where the proposed project will be built consists of a few grass-covered areas, paved roads, parking lots, and buildings. The shoreline adjacent to where the pier is located (as part of the Barge Unloading Case No. 9031) is “hardened” with riprap, rocks, and concrete.

The majority of the Morgantown site is already developed, with undeveloped areas, including upland and wetland habitats, comprising approximately 30 percent of the site. According to the Critical Area Inventory of the Morgantown Generating Station<sup>9</sup>, vegetative communities on the site include submerged aquatics, tidal marsh, rip-rap community, freshwater marsh, wet meadow, mixed wetland hardwood/coniferous forest, upland mixed hardwood forest, planted pines, mowed grass uplands, and occasional areas of upland shrubs. Upland vegetative communities in the vicinity of the Morgantown site include upland mixed hardwood forest, planted pines, mowed grass uplands, and intermittent areas of upland shrubs. Wetland vegetative communities include submerged aquatic vegetation, tidal marshes, Potomac River shoreline rip-rap, freshwater marshes, wet meadows, and mixed wetland hardwood/coniferous forests, typically associated with the shores of Pasquahanza Creek and the Potomac River.

### 2.3.2 *Aquatic Wildlife*

There are many fish and shellfish species residing in the Lower Potomac River estuary in the vicinity of the Morgantown facility. The resident fish in this area include species such as white perch (*Morone americana*) and gizzard shad (*Dorosoma cepedianum*). Juvenile gizzard shad are good forage for largemouth bass (*Micropterus salmoides*) and striped bass (*Morone saxatilis*). Seasonal residents of the Lower Potomac River estuary in the vicinity of the Morgantown site include bay anchovy (*Anchoa mitchilli*), juvenile Atlantic menhaden (*Brevoortia tyrannus*), striped bass (*Morone saxatilis*), and American shad (*Alosa sapidissima*). Shellfish, including the eastern oyster (*Crassostrea virginica*) and brackish water clam (*Rangia cuneata*), and blue crab (*Callinectes sapidus*) are also found in the Lower Potomac River in the vicinity of Morgantown. The federally listed endangered species shortnose sturgeon (*Acipenser brevirostrum*) is an anadromous fish that mainly lives in slow moving rivers and nearshore

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<sup>9</sup> PEPCO, 1991. Morgantown Generating Station Potomac Electric Power Company Critical Area Intensively Developed Overlay Zone Conservation Plan.

marine waters in most of the major river systems along the eastern U.S. coast. In June 2006, two shortnose sturgeons were caught in the Potomac River.

The nearest oyster bar to the Morgantown facility is the Pascahanna Oyster Bar, located south of the facility and about 800 feet from the coal barge unloader structure. This oyster bar has been sampled by the Maryland DNR during its annual fall oyster survey since 1988. The oyster bar is in a low salinity site, therefore reproduction is limited. However, mortality is also decreased due to the reduced presence of two diseases, MSX and Dermo. The Pasquahanna Oyster Bar was surveyed in early May 2006 using patent tongs. It was significantly smaller than that shown by the 1906-1912 Yates Oyster Bar Survey.<sup>10</sup>

The brackish water clam is common in low salinity, high turbidity areas and prefers substrates of sand, mud, and vegetation. Brackish water clams are non-selective filter feeders foraging on phytoplankton. Predator species of brackish water clams include fish, crustaceans, and ducks. Currently, it is unknown what the population status and abundance of brackish water clams are in the lower Potomac River.

Blue crabs, an important bottom-dwelling predator, reside all over the Chesapeake Bay but mate in brackish or slightly salty waters of the Chesapeake Bay from May to October. Blue crabs feed on live and dead fish species, crabs, clams, snails, eelgrass, sea lettuce, and decayed vegetation. The blue crab fishery is one of the most commercially important fisheries in the Chesapeake Bay, but is also a very important recreational fishery.

### 2.3.3 *Terrestrial Wildlife*

The area in the vicinity of the Morgantown facility provides habitat to many wildlife species. The presence of riparian forests adjacent to the Potomac River and Pasquahanza Creek provides a suitable habitat for a variety of mammals and avian species.

**Mammals** – Mammalian species observed during previous field studies include species common to Maryland forests, including white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), and eastern cottontail rabbit (*Sylvilagus floridanus*). Additional species expected to occur in the vicinity include gray squirrel (*Sciurus carolinensis*), opossum (*Didelphis*

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<sup>10</sup> Yates, C.C. 1911. Survey of the Oyster Bars in Maryland. U. S. Government Printing Office, Washington DC.

*virigniana*), woodchuck (*Marmota monax*), Eastern chipmunk (*Tamias striatus*), deer mouse (*Peromyscus maniculatus*), white-footed mouse (*Peromyscus leucopus*), and a variety of moles and shrews.

Aquatic mammals and semi-aquatic mammals most likely do not use the Morgantown facility as habitat, but instead would be found further inland and in the tidal wetland of Pasquanhanza Creek. These species include river otters (*Lontra canadensis laxatina*), muskrats (*Ondatra zibethicus*), and beaver (*Castor canadensis*).

**Birds** – The Morgantown vicinity is prime habitat to many bird species including osprey (*Pandion haliaetus carolinensis*), bald eagles (*Haliaeetus leucocephalus*), great blue heron (*Ardea herodias*), diving ducks, dabbling ducks, and Canada geese (*Branta canadensis*).

Ospreys migrate to the Chesapeake Bay in the spring for breeding. Ospreys were once declining in abundance but since the ban of dichlorodiphenyltrichloroethane (DDT) in the early 1970s, the osprey population is increasing. Artificial nests, like the one at the Morgantown site have helped to increase habitat and survival.

Charles County has the second largest population of bald eagles in Maryland. The bald eagle population was declining and listed as endangered from DDT, habitat destruction, and human impingement; however, the species is recovering and is currently listed as threatened. Bald eagles nest in large trees in forested land near the shoreline where human activity is limited.

The great blue heron is one of the top predators in the Chesapeake Bay. Herons adapt well to human presence and shoreline development; however, reproduction can decline with loss of nesting and foraging grounds as well as water quality deterioration.

Black ducks (*Anas rubripes*) and mallards (*Anas platyrhynchos*) are the most common dabbling ducks in the Chesapeake Bay. The mallard population is increasing, but the black duck population is decreasing due to human disturbance and development. The wetland south of the Morgantown facility in Pasquahanza Creek could be optimal habitat for the canvasback duck given the abundance of wild celery.

Canadian geese are the most abundant waterfowl in the Chesapeake Bay. Their diet is well adapted to many different habitats, but Canadian geese will forage on submerged aquatic vegetation.

### 2.3.4 *Threatened and Endangered Species*

Threatened and endangered species of Maryland are protected by the U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act of 1973 and by the Maryland DNR under the Maryland Nongame and Endangered Species Conservation Act of 1975. In 1994, the Maryland Wildlife and Heritage Division, a division of DNR, published “Rare, Threatened, and Endangered Plants of Maryland,” which lists both federal and State protected plant species as well as 770 additional species that are considered candidates for State listing. These additional species, however, are not protected under Maryland State law. A County-specific list of rare, threatened, and endangered species known to occur in Charles County was obtained by Mirant from the Maryland Wildlife and Heritage Division in December 2007 and can be found in Table 2.3-4 of Mirant’s CPCN application<sup>11</sup> for this project.

#### 2.3.4.1 *Listed Fauna Species*

Twenty-five listed animal species, including 14 invertebrates, are reported to occur in Charles County, Maryland. Of these species of concern, five are State endangered species, two are State threatened species, and two are considered in need of conservation. One species, the dwarf wedge mussel (*Alasmidontaheterodon*) is federally listed.

The June 2006 edition of the Bay Journal noted that two egg-bearing female shortnose sturgeons, a federally listed endangered species, were found in the Potomac River. The first female was caught September 20, 2005 at Craney Island, near Indian Head, Maryland. The female spent the winter in Mattawoman Creek, and in April went upstream to the Chain Bridge for several days, which is thought to be where she may have spawned. The second female was caught in Pope’s Creek in spring 2006. She never migrated. Neither fish wandered away from their creeks, other than the short migration observed for the one female, suggesting that the habitat is good for foraging.

Mirant requested an environmental review from the DNR Wildlife and Heritage Division (WHD) in September 2006. In correspondence received by Mirant in February 2007, the WHD indicated that no State or federal records were found for rare, threatened, or endangered species within the

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<sup>11</sup> Mirant Mid-Atlantic, LLC., 2008. Application for CPCN Authorizing Modification of the Morgantown Generating Station; Environmental Analysis. Prepared by Golder Associates, Inc. Gainesville, FL. July, 2008.

project site, although they included the disclaimer that species could be present if appropriate habitat is available. The project is limited to previously-disturbed industrial areas, so suitable habitat for these species is not likely to exist at the Morgantown site. An environmental review by DNR and USFWS was previously requested in 1989 in association with the Critical Area Intensively Developed Overlay Zone Conservation Plan. The USFWS responded that, with the exception of occasional transient individuals, no federally listed species were known to exist in the project impact area. The DNR identified a peregrine falcon (*Falco peregrinus*) nest site within ¼ mile of the site, and also identified the open water areas adjacent to the project site as Historic Waterfowl Staging and Concentration Area.

#### 2.3.4.2 *Listed Flora Species*

Listed flora species include those plant species classified as endangered, threatened, or of special concern by the USFWS or DNR. Ninety-six plant species of concern are known to occur in Charles County, and are listed in Table 2.3-4 of Mirant's CPCN application<sup>12</sup>. Of these, 35 are listed as State endangered, 18 are listed as State threatened, and 12 are considered extirpated. The remaining 28 species are not threatened and are classified by the State according to their degree of rarity. Only one plant species found in Charles County, the sensitive joint-vetch (*Aeschynomene virginica*), is federally listed. No listed plant species were observed previously according to historical field surveys. Also, the DNR and USFWS environmental review did not identify any listed species of plants.

## 2.4 **REGIONAL SOCIOECONOMIC SETTING**

Charles County is located in Southern Maryland, and is part of the south suburban Washington, D.C. metropolitan area; Washington, D.C. is only 18 miles north. The Morgantown site is within the Tompkinsville election district, which includes the communities of Cobb Island, Swan Point and Morgantown. The Tompkinsville district is outside the primary Development District, which is the principal center of population, services and employment for the County. The County's Comprehensive Plan designates the Morgantown site an Employment and Industrial Park District.

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<sup>12</sup> Mirant Mid-Atlantic, LLC., 2008. Application for CPCN Authorizing Modification of the Morgantown Generating Station; Environmental Analysis. Prepared by Golder Associates, Inc. Gainesville, FL. July, 2008.



### 2.4.1 *Employment and Income*

More residents of Charles County work outside the County than inside. In 2000, nearly 37,000 residents commuted to jobs outside the County while about 11,420 commuted from other jurisdictions to jobs in the county. Most of the out-commuting flow is directed towards the District of Columbia, Prince George's County, and Montgomery County. However, the County was the source for nearly 50,000 jobs in 2000, and employment is projected to grow in Charles County by nearly 40 percent by 2030. Although significant, projected employment growth is only one-half the County's projected labor force growth over the same period.<sup>13</sup>

Retail trade was the largest employer in Charles County in 2004 (10,555 jobs), followed by construction (5,729), local government (5,616), accommodation and food services (5,177) and health care and social assistance (5,114).<sup>14</sup> The highest rate of job growth between 2001 and 2004 was in professional/technical services (8.4%) and real estate (8.0%). Government employment is an important source of jobs in Charles County.

Tourism is an important industry in Charles County. In 2004, more than 6,000 jobs in the county were related to tourism.<sup>15</sup> Visitors to Charles County spent \$79.5 million in 2004, generating \$20 million in payrolls and more than \$3.9 million in local tax receipts.<sup>16</sup> Enhancement of its tourist attractions is an important goal in the County's economic development plan, from developing waterfront recreation areas along the Potomac River to promoting historic sites. With Calvert and St. Mary's Counties, Charles County adopted the Southern Maryland Heritage Tourism Management Plan in 2003.<sup>17</sup> Charles County also sponsored a study of its

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<sup>13</sup> County Commissioners of Charles County, 2006. Charles County Comprehensive Plan 2006. LaPlata, Maryland.

<sup>14</sup> Maryland Department of Planning (MDP), 2006. Total Full and Part-Time Jobs (by place of work) by Type and Industry, 2001-2004. Maryland Department of Planning, from U.S. BEA Table CA-25N, April 2006.

<sup>15</sup> Maryland Department of Planning (MDP), 2006. Total Full and Part-Time Jobs (by place of work) by Type and Industry, 2001-2004. Maryland Department of Planning, from U.S. BEA Table CA-25N, April 2006.

<sup>16</sup> Charles County Office of Tourism, 2007. News Release. 2004 Economic Impact Figures for Travel and Tourism Show Gains in All Three Southern Maryland Counties.

<sup>17</sup> Redman/Johnston Associates, 2003. The Southern Maryland Heritage Area. Heritage Tourism Management Plan. Prepared for the Southern Maryland Heritage Area, Tourism Management Plan Steering Committee. Redman/Johnston Associates, Ltd. April 2003.

natural assets focusing on ecology, tourism and open space preservation.<sup>18</sup> In recognition of the importance of tourism to economic development, in June 2006, the Charles County Department of Tourism was merged into the Economic Development Department.

#### 2.4.2 *Population Trends*

Charles County is Maryland's eleventh most populous county and the most populous county in Southern Maryland. In 2005 the population of Charles County was 138,050, an increase of more than 14 percent from 2000.<sup>19</sup> Population is projected to grow at a rate of about 1.5 percent per year through 2030, to 204,200. Population is concentrated in the northern districts of the County, near the key US 301 corridor to Washington. Population growth is being shaped by a concerted effort to concentrate future development in areas of the County already served or proposed to be served by public water and sewer. As a result, over the next 20 years, population growth is expected to be concentrated in the planned development districts in north, northwestern, and central Charles County.

#### 2.4.3 *Land Use*

Over the past 25 years, Charles County has been transformed from a rural to urban character. Since 1990, land use and development in Charles County has been guided by the Comprehensive Plan. Updated in 1997 and 2006, the Comprehensive Plan meets State requirements for local government planning in Maryland and establishes the policy framework to manage and direct future development in Charles County through 2025.<sup>20</sup>

Mirant's Morgantown facility is located in the Tompkinsville Election District which is considered part of the Rural Area of Charles County. Except for the Morgantown site and land along the US 301 corridor, which is an Employment and Industrial Park District, Swan Point (Mixed Use District), and eight villages, including Cobb Island, Morgantown and Tompkinsville (Village Center), the Tompkinsville region is designated an Agricultural Conservation District in the County's Land Use Concept

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<sup>18</sup> Fermata, 2000. Nature and Experiential Tourism: Report and Recommendations for Charles County, MD. Fermata, Inc. Austin, Texas. October 20, 2000.

<sup>19</sup> Maryland Department of Planning (MDP), 2006. Historical and Projected Total Population for Maryland's Jurisdictions. Maryland Department of Planning. Planning Data Services, September 2006.

<sup>20</sup> County Commissioners of Charles County, 2006. Charles County Comprehensive Plan 2006. LaPlata, Maryland.

Plan. Employment and Industrial Park Districts are selected on a number of principles, which include minimizing adverse effects and preserving the character and aesthetics of adjoining residential areas. Constructed in the 1960s, the Morgantown Generating Station precedes the County's formal adoption of comprehensive planning principles.

On-shore, 203.8 acres of the Morgantown facility sit on land designated as Critical Area, and portions of the proposed construction will sit on and pass over this Critical Area acreage. The County's Comprehensive Plan designates the Morgantown facility an Employment and Industrial Park District. Overlaid on this is the Critical Area Program's designation of the facility as an Intensely Developed Area (IDA). The criteria set forth in conjunction with the Critical Area Act require that any development or redevelopment within an IDA be accompanied by practices to reduce water quality impacts associated with storm water runoff. The criteria further specify that these practices must be capable of reducing storm water pollutant loads from a development site to a level at least 10% below the load generated by the same site prior to development. This requirement is commonly referred to as the "10% Rule." In order to provide a consistent approach to compliance with the 10% Rule, the Critical Area Commission provides guidance that includes a methodology for determining a pollutant removal requirement and for quantifying the pollutants removed by a variety of storm water best management practices. This guidance, entitled "Maryland Chesapeake and Atlantic Coastal Bays Critical Area 10% Rule Guidance" is the result of revisions to prior publications printed in 1987 and in 1993. The current guidance was reviewed and officially adopted by the Critical Area Commission on December 3, 2003.

Preservation of rural land for agricultural use is a concern in Charles County but less programmatic effort has been put into preservation than other counties in the State. The County's Agricultural Land Preservation Program was certified by the State in 1996, and in 2000 the County Commissioners appointed a Rural Commission to develop a land use plan for the Rural Area.<sup>21</sup> Among Maryland counties with the least amount of protected agricultural land, even less is under permanent easement in Charles County.<sup>22</sup> As of 2006, 15,504 acres of agricultural and forest land

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<sup>21</sup> County Commissioners of Charles County, 2006. Charles County Comprehensive Plan 2006. LaPlata, Maryland.

<sup>22</sup> County Commissioners of Charles County, 2002. Report of the Charles County Rural Commission. Rural Commission Committee and Staff. Submitted to the County Commissioners of Charles County and the Charles County Planning Commission. September 2002.

were permanently protected from development, and another 17,932 acres were in Agricultural Land Preservation Districts, which restricts property to agricultural uses for five years. This includes substantial acreage in the Tompkinsville district. In addition, 9,873 acres were under a 10-year Tobacco Buyout Affirmative Agricultural Covenant.<sup>23</sup>

With the addition of 480 acres from three land owners, the Maryland Environmental Trust held more than 6,000 acres of easements in Charles County in January 2007,<sup>24</sup> two of which are located in the Tompkinsville election district.<sup>25</sup> Including non-agricultural lands, approximately 1,100 acres are protected by Rural Legacy easements within the Zekiah Watershed Rural Legacy Area.

There were 20,359 acres of recreation and resource land in Charles County in 2005. This included 2,824 acres in county parks, school facilities in the county and in Indian Head and LaPlata, and 16,425 acres of State and federal recreation and open space lands, including 7,837 acres of recreation land.<sup>26</sup> About two percent of recreation and open space lands (333 acres) are located within the Tompkinsville election district, consisting of 57 acres of county recreation and natural resource facilities and 276 acres of private quasi-public lands and facilities, such as neighborhood parks, marinas and other facilities. Swan Point Golf Course comprises 200 acres of private quasi-public lands in the district. The closest recreation facilities to the Morgantown Generating Station are located at Dr. Thomas Higdon Elementary School and Piccowaxen Middle School on Rock Point Road (MD 257).

Commercial uses of the area include fishing, crabbing, eeling, and less frequently, oystering. Blue crab and brackish water clam are the main shellfish found in the area of the Morgantown facility. Commercial crabbers have historically worked the shallows offshore of the facility during crabbing season (typically April through November). Commercial fishing in the Potomac is the province of scores of small businesses. A

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<sup>23</sup> County Commissioners of Charles County, 2006. Charles County Land Preservation, Parks, and Recreation Plan. Charles County, Maryland. June 2006.

<sup>24</sup> Maryland Department of Natural Resources. (DNR) 2007. Charles County Landowners Donate 480 Acres in Conservation Easements. Maryland Department of Natural Resources. Press Release. January 7, 2007.

<sup>25</sup> Maryland Greenways Commission, 2000. Charles County Greenways, Water Trails and Protected Lands. Chesapeake and Coastal Watershed Service, Waterway and Greenways Division, Maryland Greenways Commission, Watershed Management and Analysis Division, Maryland Department of Natural Resources. August 2000.

<sup>26</sup> County Commissioners of Charles County, 2006. Charles County Land Preservation, Parks, and Recreation Plan. Charles County, Maryland. June 2006.

natural oyster bar runs parallel to the shore along the Mirant property from about 975 yards to about 1,400 yards south of the bridge. In July 1997, more than four million oyster spat were seeded onto the bar through the joint effort of the Potomac River Fisheries Commission (PRFC) and the Morgantown facility's previous owner, Potomac Electric Power Company (PEPCO). The bar is not currently harvested, consistent with the overall decline of oystering in the river due to a lack of supply.

#### 2.4.4 *Transportation*

There are approximately 1,100 miles of highways in Charles County. The major north-south highway is US 301, which enters Maryland at the Governor Harry W. Nice Memorial Bridge in Morgantown and enters Prince George's County just north of Mattawoman. Other major arterial highways are MD 5, which traverses the County from Prince Georges' County to St. Mary's County, MD 6, an east-west highway, MD 210 from Indian Head to Prince George's County, MD 228, MD 231 and MD 234.

Access to the Morgantown site is from US 301, just north of the Governor Harry W. Nice Memorial Bridge. US 301 is a paved, four-lane highway with 12-foot lanes. The average annual daily traffic (AADT) on US 301 at Morgantown was 17,966 in 2005, up eight percent from 2003.<sup>27</sup>

The only highway project on the books in the Morgantown area is a long range planning study to increase the capacity of the Governor Harry W. Nice Memorial Bridge. Currently, the Maryland Transportation Authority is conducting a study to investigate capacity and safety needs of the bridge and approaches.<sup>28</sup>

The Potomac River carries both recreational and commercial traffic. The main channel is approximately 50 feet deep in the vicinity of Morgantown. Industrial use of the river includes sand and gravel barges traveling from Charles County up-river to Washington. Other than sand and gravel barges, there are occasional oil shipments to Morgantown. Also, small ocean freighters deliver newsprint to the Robinson Terminal Warehouse in Alexandria.<sup>29</sup>

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<sup>27</sup> State Highway Administration (SHA), 2005. State Highway Location Reference: Charles County. State Highway Administration of Maryland, Highway Information Services Division, Data Support Group. December 31, 2005.

<sup>28</sup> Maryland Transportation Authority (MTA), 2006. Consolidated Transportation Program. Maryland Transportation Authority.

<sup>29</sup> RiverExplorer.com, 2004. The Potomac River Guide. <http://www.riverexplorer.com/>

The Potomac River is a test range for the Naval Surface Warfare Center (NSWC), Dahlgren Virginia. The Middle Danger Area (Figure 2-3) is part of larger danger zone described in 33 CFR 334.230, which is dangerous to watercraft when guns and other ordnance are being fired or when other testing is being conducted. Naval Surface Warfare Center Dahlgren Division (NSWCDD) stations patrol boats in hazardous areas when testing is being conducted. No fishing or oystering vessels may operate within the danger zone unless authorized by the NSWC. Deep draft vessels using dredged channels and mechanical power traveling more than five miles per hour may proceed directly through danger zones without restriction except when especially notified otherwise.

Firing schedules are arranged to cause minimum inconvenience to river traffic and the range is usually closed for only short periods of time.<sup>30</sup> Usually barges and other commercial traffic call ahead before entering the range. Although compliance is not required, NSWCDD typically requests commercial vessels to wait for clearance or slow down before reaching Swan Point when the range is active. Typically, NSWC coordinates its activities with commercial vessels on the Potomac, so that the maximum delay is about one hour.<sup>31 32</sup>

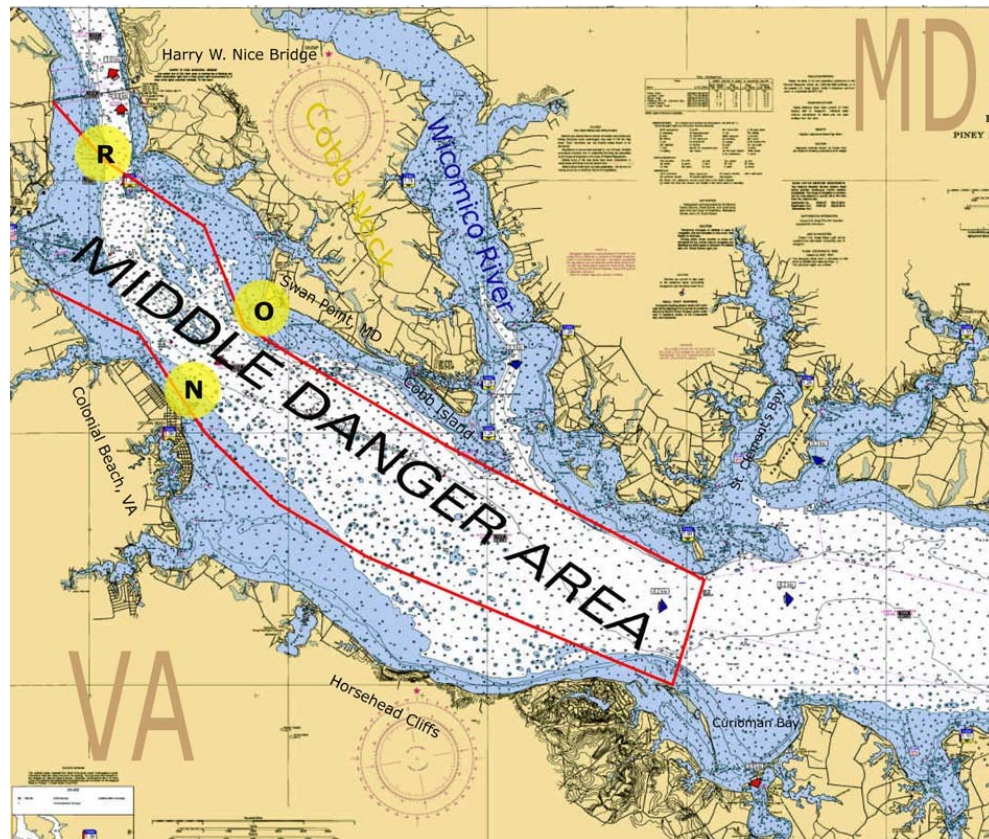
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<sup>30</sup> NSWC, 2007. Potomac River Test Range/Explosive Experimental Area. <http://www.nswc.navy.mil/wwwDL/RANGE/boaters.html>

<sup>31</sup> Courtney 2007. Personal communication from Stacia L. Courtney, Corporate Communications Office (C6), NSWC Dahlgren Division, Dahlgren, Virginia. March 21, 2007.

<sup>32</sup> Swope, A.G., 2007. Personal communication from Ann G. Swope, NSWC Dahlgren Division, Dahlgren, Virginia. January 22, 2007.

Figure 2-3 Middle Danger Zone, Potomac River



The Morgantown Generating Station is served by the Pope's Creek Secondary of the CSXT rail line. The line is the only rail service in Charles County and roughly parallels US 301 through Waldorf and LaPlata to a terminus at Mirant's Morgantown facility. The CSX Herbert Secondary branches from the Pope's Creek line at Brandywine in Prince George's County to serve Mirant's Chalk Point Generating Station, approximately 17 miles from the junction. There is no local business on the Herbert Secondary. A U.S. Government railroad line runs from the Naval Surface Warfare Center (Indian Head Division) to a connection with the CSXT main line at White Plains.

#### 2.4.5 Public Safety

In 2005, there were 18 volunteer fire and fire/Emergency Medical Services (EMS) stations in Charles County. Station 14/61 in Newburg houses the Newburg Volunteer Rescue Squad and Fire Department (NVRISFD), which is both a fire and EMS company. It is less than three miles from the Morgantown Generating Station. The company consists of two engines, a brush truck, an ambulance and a utility vehicle. Based on data for the

Fiscal Year 2007, the NVRSD responds to an average of 35 fire and 75 EMS incidents per month.<sup>33</sup> A new station for the company is under construction on Rock Point Road (MD 257) near its intersection with US 301. There is also a fire/EMS station on Cobb Island. The Cobb Island Volunteer Fire Department also owns land in Tompkinsville, which would become the location of a new station.<sup>34</sup> The Charles County Dive Team Company 13, administratively based in Waldorf, undertakes water-related rescue and recovery.

The County is served by the Charles County Sheriff's Office (CCSO) and the Maryland State Police, both of which are headquartered in LaPlata. The CCSO is the primary law enforcement agency in Charles County. The CCSO maintains a patrol operations section, a special operations section, tactical response squad, a K-9 unit, traffic operations unit, emergency services team and hostage negotiations team. A security response vessel patrols Charles County's tidal and inland waters, conducting security patrols when the U.S. Department of Homeland Security heightens the terrorism threat level. In such conditions, the section safeguards bridges and shoreline properties.<sup>35</sup> There are also community services, community policing and crime prevention units attached to the CCSO.

Emergency management is under the direction of the Department of Emergency Services, based in LaPlata. In 2004, the County completed a Hazard Mitigation Plan and revised its Emergency Operations Plan (EOP).<sup>36</sup> The Hazard Mitigation Plan is a strategic document to prepare for natural hazards such as flooding and hurricanes. The EOP is a comprehensive plan of preparedness for response and recovery from emergencies ranging from natural hazards to terrorist attacks within Charles County.<sup>37</sup>

The Morgantown Generating Station is on Charles County's list of Superfund Amendments and Reauthorization Act (SARA) Title III facilities, which is addressed in the SARA Hazardous Materials Plan

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<sup>33</sup> Newburg Volunteer Rescue Squad and Fire Department (NVRSD), 2007. FY07 Incidents. <http://www.nvrsg.com>

<sup>34</sup> County Commissioners of Charles County, 2006. Charles County Comprehensive Plan 2006. LaPlata, Maryland.

<sup>35</sup> Charles County Sheriff's Office (CCSO), 2005. 2005 Annual Report. LaPlata, Maryland.

<sup>36</sup> County Commissioners of Charles County, 2006. Charles County Comprehensive Plan 2006. LaPlata, Maryland.

<sup>37</sup> Charles County, 2002. Charles County Emergency Operations Plan. LaPlata, Maryland.



Annex of the EOP. US 301, between the Governor Harry W. Nice Memorial Bridge and the Prince George's County line, is one of five Hazardous Materials and Transportation (HAZMAT) transportation routes in the County, and the closest one to the Morgantown site.

#### 2.4.6 *Cultural and Historic*

Charles County's cultural identity is tied to Southern Maryland's history and environmental assets. Because of its long history, there are historical assets throughout Charles County. For example, there are over 3,000 properties in the county built before 1950. Cultural landscapes have been partly retained by State and County land preservation efforts, and 1996 revisions to subdivision regulations require easements to be placed on private cemeteries before a development plan is approved.<sup>38</sup> However, many heritage resources are threatened by growth. The Charles County Historic Preservation Plan identifies a number of goals and preservation strategies to protect these assets including the encouragement of heritage preservation programs and promoting heritage tourism initiatives. These goals have been partly met by the Southern Maryland Heritage Area Tourism Management Plan<sup>39</sup>, the Maryland State Highway Administration Scenic Byways program<sup>40</sup>, the Chesapeake Bay Gateways

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<sup>38</sup> County Commissioners of Charles County, 2004. Charles County Historic Preservation Plan. July 2004.

<sup>39</sup> Redman/Johnston Associates, 2003. The Southern Maryland Heritage Area. Heritage Tourism Management Plan. Prepared for the Southern Maryland Heritage Area, Tourism Management Plan Steering Committee. Redman/Johnston Associates, Ltd. April 2003.

<sup>40</sup> State Highway Administration (SHA), 2007. Maryland Scenic Byways: Southern Region. Religious Freedom Tour.

Network<sup>41</sup>, the National Park Service National Underground Network to Freedom Program<sup>42</sup>, the Southern Maryland Travel and Tourism Committee Bicycle Routes program<sup>43</sup>, other State and Charles County initiatives, and interpretive programs of many other private and quasi-public organizations.

Mirant's Morgantown site is situated on land that was once part of the estate "Blenheim" purchased in 1752 by Hon. Richard Lee III (1706-1789). Once the scene of entertainment for travelers between Virginia and the north, the plantation was demolished in the late 19<sup>th</sup> century. The only remaining connection between Blenheim and the Morgantown property is the Lee family cemetery.

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<sup>41</sup> Chesapeake Bay Gateways Network (CBGN), 2004. Star-Spangled Banner Trail: War of 1812 Chesapeake Campaign. Brochure.

<sup>42</sup> National Park Service (NPS), 2007. The Underground Railroad: Maryland's Network to Freedom.

<sup>43</sup> SMTTC, undated. Southern Maryland Bicycle Routes. Brochure.

## 3.0 *AIR QUALITY IMPACTS*

### 3.1 *IMPACT ASSESSMENT BACKGROUND AND METHODOLOGY*

#### 3.1.1 *Overview*

As part of the CPCN review process (under COMAR 20.80) PPRP and the Maryland Department of the Environment Air and Radiation Management Administration (MDE-ARMA) evaluate potential impacts to air quality resulting from emissions of electric generation projects to be licensed in Maryland. This evaluation consists of a full review and investigation of emissions from the proposed project to ensure that impacts to air quality are acceptable. PPRP and ARMA also conduct a complete air quality regulatory review for two purposes: 1) to assist in the impact assessment, because air quality regulatory standards and emissions limitations define levels to protect against adverse health, welfare, and environmental effects; and 2) to ensure that the proposed project will meet all applicable regulatory requirements. The coordinated review by PPRP, MDE-ARMA, and other State agencies results in recommendations to the Maryland PSC for consideration as project licensing conditions. These recommended conditions are provided in Appendix A.

#### 3.1.2 *Regulatory Considerations*

Mirant is proposing to install coal blending and gypsum barge loadout facilities at Morgantown to:

- Enable Morgantown to use a wider variety of coals to match the specifications for the boilers and air quality control equipment; and
- Allow a more efficient transportation option to enable the long-term beneficial use of the gypsum by-product generated from the Morgantown FGD pollution control system (approved under PSC Case 9085).

The coal blending facilities at Morgantown will also optimize fuel flexibility and help Mirant comply with system-wide SO<sub>2</sub> emission reduction requirements mandated by the Maryland Healthy Air Act.

## 3.2

### *DESCRIPTION OF PROPOSED EMISSIONS SOURCES*

The proposed modification of the Morgantown facility consists of the installation of coal blending and gypsum loadout facilities as presented in Mirant's CPCN application. The State has reviewed and evaluated the air emissions sources associated with the proposed operations.

The Morgantown Coal Blending/Gypsum Loadout Project does not involve the installation of new combustion equipment (e.g., emergency diesel generators or equipment to power material handling operations) or any changes to coal-fired generating Units 1 and 2.

### 3.2.1

#### *Coal Blending Facilities*

The coal blending facilities will be installed to allow for the use of different types of coal to match the specifications of the boilers and air quality control equipment already installed, as well as those being constructed. This will allow for fuel flexibility that will help Mirant comply with SO<sub>2</sub> emissions reduction requirements. The coal blending project components include:

- New stack-out facilities in the existing South coal yard, including two new transfer points;
- Underground reclaim facilities in both the existing South and North coal yards;
- Reclaim transfer points to integrate the reclaim from the South and North coal yards;
- Refurbished and upgraded emergency reclaim system; and
- Enclosed transfer locations with dust suppression.

In the evaluation of emissions sources, the coal blending facilities consist of two primary operations:

- The unloading operations associated with transporting coal from barge or rail to the North and South yard piles; and
- The proposed coal reclamation process from the North and South yard piles to the existing surge hopper and Conveyors J1 and J2.

#### 3.2.1.1

##### *Unloading Operations*

The coal blending facilities will include a new transfer point located near the existing coal sampling building and new aboveground conveyors in

the South coal yard. The conveyors will be connected to three new transfer points, such that coal can be routed to the storage piles. The North coal yard will utilize existing equipment for the placement of coal. In addition, new below-ground reclaim tunnels will be installed under the North and South coal yards. Coal originating from these tunnels will be fed to Units 1 and 2 via new transfer points and then the existing conveyor system. The existing coal storage areas will not be expanded as part of this project.

Coal from either rail or barge (once the barge unloading facilities licensed under Case 9031 are complete) will be conveyed to the North and South coal yards using the existing 48-inch Conveyor BC-4 from the barge unloading facilities or the existing 72-inch Conveyor E from the rail unloading facilities. The determination of which stockpile the coal is routed to will be determined by on-line analyzers that will be installed on the conveyors. These analyzers measure the ash and moisture contents as well as perform an elemental analysis of the coal.

Upon arrival, the coal will also be routed to the existing sampling building. A modification will be made to the configuration of the sampling building to allow incoming coal to be unloaded and segregated simultaneously to either the existing Conveyor F or a new Conveyor M1 using flop gates. Conveyor F is being split in order to allow for simultaneous unloading and reclaiming operations. The portion of the conveyor used for unloading operations has been designated Conveyor F1. Coal routed to Conveyor F1 will be stockpiled using the stacker that already exists in the North coal yard (labeled as Pile C). This stacker may also be used to stockpile coal in the South coal yard (Piles A and B) during emergency circumstances. Coal from Conveyor M1 will be routed to a new Transfer Tower TT-1, which houses the connection with Conveyor N1. Automatic dust suppression will be included in this enclosed transfer point.

Conveyor N1 transfers coal to Transfer Tower TT-2, which is located at the top of the No. 1 stacking tube in the South coal yard. At TT-2, coal will be diverted using a flop gate to ground storage (through the No. 1 stacking tube) or to Tripper Conveyor 01. Coal traveling on this conveyor may be discharged at various points along the South coal yard stockpile area (Piles A and B). Coal may also travel the length of Tripper Conveyor 01 to Transfer Tower TT-3, where it will be released through stacking tube No. 3 to ground storage. TT-2 and TT-3 will be fully enclosed and include automatic dust suppression.

As illustrated in Figure 3-1, after the coal is unloaded to the three stockpiles in the North and South coal yards, the coal is transported from the coal yards to the reclaim operations associated with the coal blending facility, as shown in Figure 3-2.

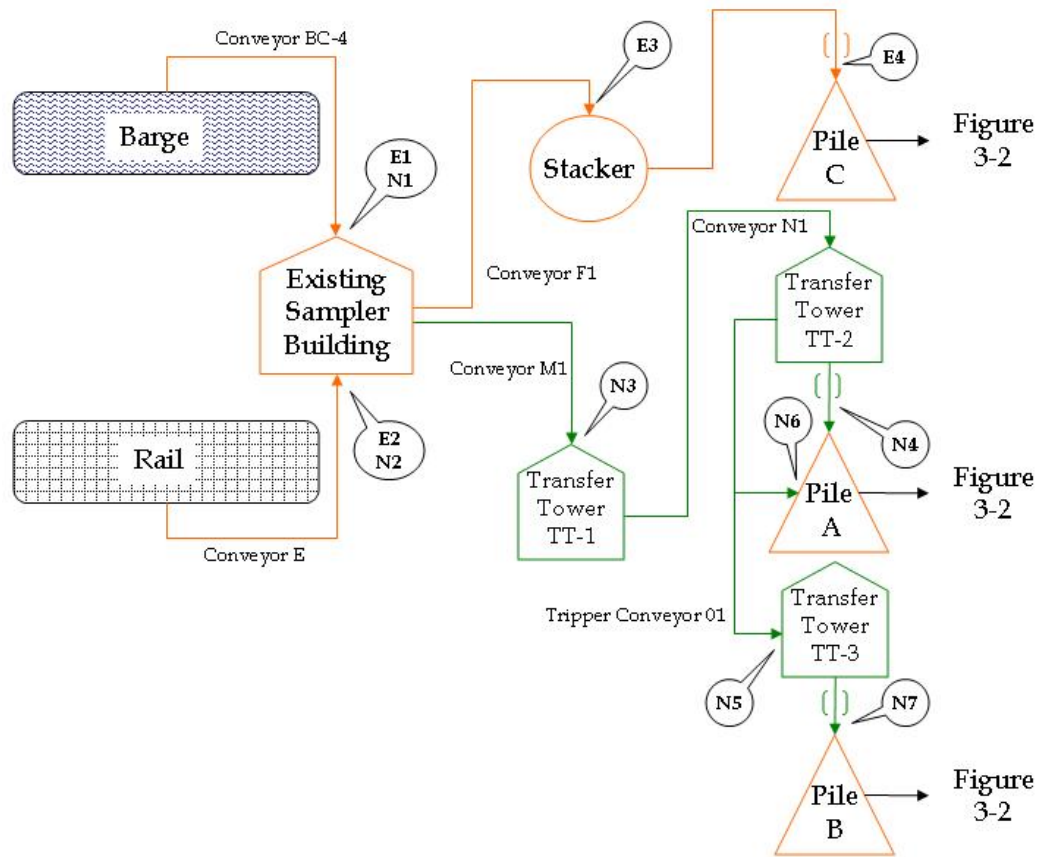
### 3.2.1.2 *Reclaim Operations*

Coal will be reclaimed from the North yard (Pile C) and South yard (Piles A and B) stockpiles using weigh belt feeders installed underground in concrete tunnels beneath the stockpiles. These feeders are controlled (manually or automatically) by variable frequency and will operate at rates of between 75 to 800 tons per hour. As illustrated in Figure 3-2, coal from the North coal yard reclaim tunnel will travel to the enclosed Transfer Tower TT-5 with automatic dust suppression via Conveyor R1. From there, coal will be routed to Transfer Tower TT-6 using Conveyor S1. Coal from the South coal yard reclaim tunnel will travel to Transfer Tower TT-4 via Conveyor P1. From there, coal will be routed to Transfer Tower TT-6 on Conveyor Q1.

At TT-6, coal from both coal yards will be sent to a modified section of the existing Conveyor F, which will be routed to the surge hopper located within an existing transfer building and onto existing Conveyors J1 and J2. As previously noted, Conveyor F is being split to allow for simultaneous unloading (F1) and reclaiming (F2) operations. In-line belt scale, coal quality analyzer, and a two-stage sample system will be installed on Conveyor F2 to measure coal quality parameters such as coal ash and moisture content (i.e., proximate analysis) and to perform an elemental or ultimate analysis to measure carbon, hydrogen, nitrogen, sulfur, and oxygen content of the coal.

There are two emergency options for coal reclamation. The existing reclaimer that is currently in use will no longer be used as part of normal operations. However, the reclaimer will remain as an emergency option from the North or South yard piles using the existing Take-Up Unit. Coal will be transported from Pile C via an existing Take-Up Unit Conveyor to Conveyor F1. The coal will transfer from Conveyor F1 to Conveyor F2 and be routed to the surge hopper located within the existing transfer building and onto existing Conveyors J1 and J2 as previously noted. The alternative emergency reclaim system will transport coal from the piles via truck. Coal will be dumped from the truck to a stamler feeder within a new fully enclosed building. From the stamler feeder, the coal will be dropped to Conveyor U1, and routed to the surge hopper located within the existing transfer building and onto existing Conveyors J1 and J2.

Figure 3-1 Flow Diagram for Coal Blending Unloading Operations

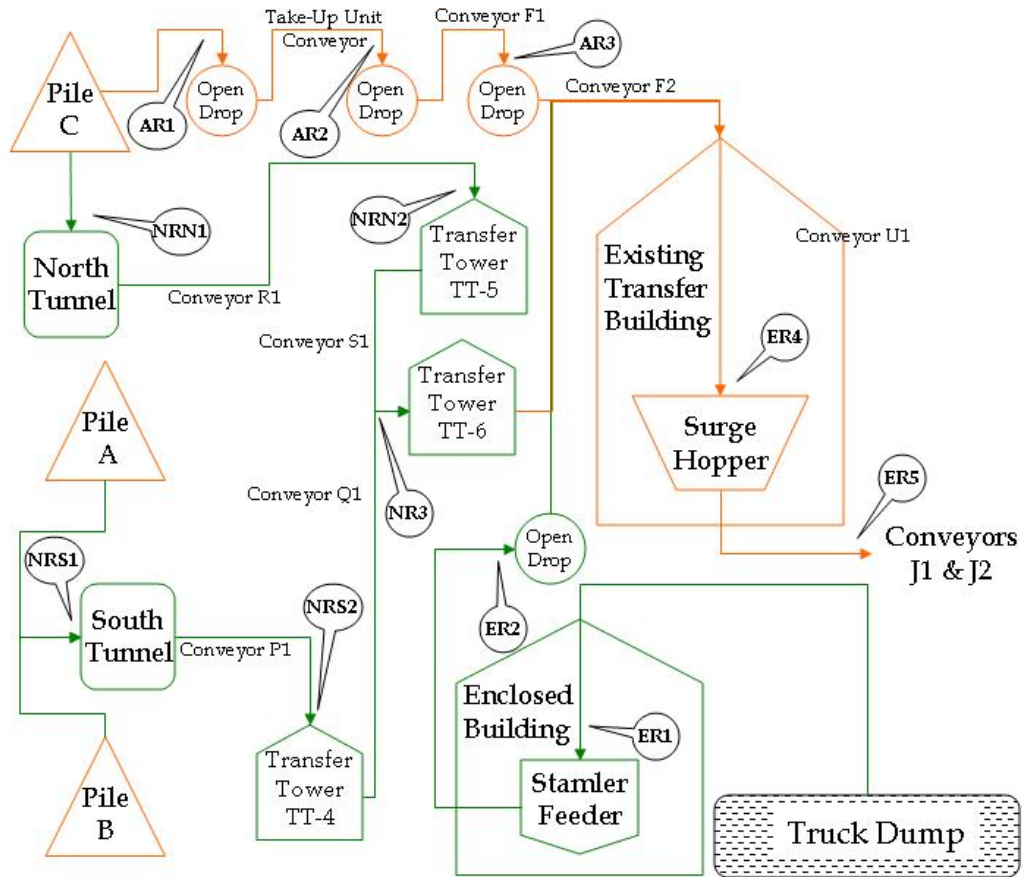


Key	
	Existing equipment
	New equipment
	Enclosed shelter (95% control)
	Open drop (0% control)
	Telescoping chute w/water sprays (75% control)
	Coal storage pile

Fugitive Emission Sources	
E1	Conveyor BC-4 to Conveyor F1 from Barge
E2	Conveyor E to Conveyor F1 from Rail
E3	Conveyor F1 drop to Stacker
E4	Stacker drop to North Yard Pile C
N1	Conveyor BC-4 to Conveyor M1
N2	Conveyor E to Conveyor M1
N3	Conveyor M1 to Conveyor N1 inside TT-1
N4	Conveyor N1 to Pile A inside TT-2
N5	Conveyor N1 to Tripper Conveyor 01 inside TT-2
N6	Tripper Conveyor 01 to Pile A
N7	Tripper Conveyor 01 to Pile B inside TT-3

Note: The existing emission point from stacker to Pile C (E4) represents a normal operating scenario. Coal can also be transported from the stacker to Piles A or B in emergency situations. Emissions resulting in a transfer to Pile A or B would be equivalent to the emissions of transferring coal to Pile C as depicted above.

Figure 3-2 Flow Diagram for Coal Blending Reclaim Operations



Key		Fugitive Emission Sources	
	Existing equipment	NRN1	Pile C to Conveyor R1
	New equipment	NRN2	Conveyor R1 to Conveyor S1
	Enclosed shelter (95% control)	NRS1	Pile A or B to Conveyor P1
	Open drop (0% control)	NRS2	Conveyor P1 to Conveyor Q1
	Enclosed reclaim tunnel (99% control)	NR3	Conveyor S1 or Q1 to Conveyor F2
	Telescoping chute w/water sprays (75% control)	ER4	Conveyor F2 or U1 to Surge Hopper
	Coal storage pile	ER5	Surge Hopper to Conveyor J1 and/or J2
		AR1	Pile C to Take-Up Unit Conveyor
		AR2	Take-Up Unit Conveyor to Conveyor F1
		AR3	Conveyor F1 to Conveyor F2
		ER1	Emergency Truck Dump to Stamler Feeder
		ER2	Stamler Feeder to Conveyor U1

Note: The emissions originating from the proposed stamler feeder (ER1, ER2) and from the existing reclaimer and take-up unit (AR1, AR2, AR3) are for emergency scenarios only. In addition to Pile C, coal can be transported from the existing take-up unit from Piles A or B in emergency situations as well. Emissions resulting in a transfer from Pile A or B would be equivalent to transferring coal from Pile C as depicted above.



### 3.2.2

#### *Gypsum Loadout Facilities*

A gypsum barge loadout facility will be constructed to handle the gypsum created during the operation of Morgantown Units 1 and 2 FGD systems, as well as gypsum originating from the Chalk Point Generating Station. The gypsum from Chalk Point will be transported to the Morgantown site by railcar. The primary purpose of the loadout facilities is to facilitate long-term beneficial use of the gypsum, which would otherwise be a waste by-product, by providing an alternative mode of transportation for the material. Mirant suggests that barge transportation is required to support a 20-year contract to utilize the gypsum in wallboard production.

The gypsum loadout project includes the following components:

- New 1,000-ton per hour (TPH) conveyor material handling system;
- Five new enclosed transfer towers;
- One tripper conveyor system located on the existing pier (from Case 9031);
- One telescoping barge loadout conveyor;
- Rail unloading facility; and
- New rail unloading hopper and 24-inch conveyor to support the transport of gypsum from Chalk Point to the barge loadout area.

The gypsum loadout facilities will include seven conveyors and five transfer towers that will be installed to transfer gypsum from storage to barges located at the coal unloading pier. A flow diagram of the fugitive emission sources associated with the gypsum loadout facility is provided as Figure 3-3. From the storage dome, where the proposed equipment begins, gypsum will be moved to Gypsum Transfer Tower (GTT)-01 via a vibratory feeder. Inside GTT-01, which is enclosed on three sides and has a roof, gypsum will be transferred to Gypsum Conveyor BC-01 using the vibratory feeder. Gypsum will then travel approximately 760 feet along Conveyor BC-01 to Gypsum GTT-02, which will be fully enclosed. Inside GTT-02, gypsum will be transferred to Conveyor BC-02, which will transport the gypsum approximately 866 feet to the fully enclosed shelter GTT-03.

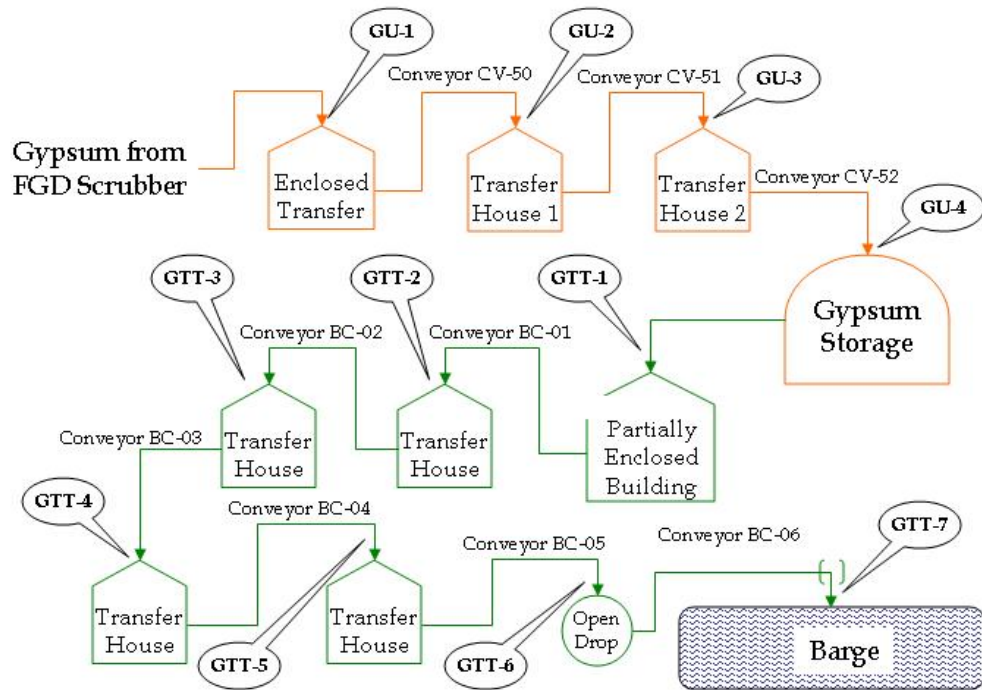
At GTT-03, gypsum will be transferred to Conveyor BC-03, which will transport the gypsum approximately 1,070 feet to fully enclosed GTT-04. Conveyors BC-01, -02, and -03 will include full hoops and covers for the length of the conveyors (SA A-1 type or equal). At GTT-04, gypsum will be transferred to Conveyor BC-04, which will transport the gypsum

approximately 925 feet to GTT-05, which is located on the coal unloading pier and will be fully enclosed. Conveyor BC-04 will be enclosed in a tube structure. At GTT-05, gypsum will be transferred to Conveyor BC-05, which will transport the gypsum the length of the dock using an uncovered traveling tripper conveyor. Conveyor BC-05 and the enclosed telescopic shuttle conveyor (Conveyor BC-06) are connected within GTT-6. The shuttle conveyor is to be located on the tripper car assembly point on the pier and will be used to transport gypsum 95 feet to the center line of a docked barge and then load the gypsum into it. The tripper car will be systematically moved until the barge is filled. An automatic telescoping chute will be located at the end of Conveyor BC-06 for dust control.

At capacity, all conveyors are capable of transporting gypsum at a rate of 1,000 TPH (350 feet per minute).

In addition to the emission sources indentified in Figure 3-3, new rail unloading facilities will also be installed as part of the gypsum loadout project to allow the barge transport of gypsum delivered to the Morgantown site via rail from Chalk Point. The equipment associated with the new facilities includes a new rail unloading hopper and an approximately 250-foot conveyor with a 24-inch belt width to transfer gypsum from the rail hopper to the existing gypsum storage dome. The emissions from these sources were evaluated and are presented in Section 3.3.

Figure 3-3 Flow Diagram for Gypsum Loadout Operations



Key		Fugitive Emission Sources	
	Existing equipment	GU-1	Gypsum from FGD Scrubber to Discharge Conveyor
	New equipment	GU-2	Discharge Conveyor to Transfer House 1
	Enclosed shelter (95% control)	GU-3	Transfer House 1 to Transfer House 2
	Partially enclosed shelter (70% control)	GU-4	Transfer House 2 to Gypsum Storage Pile
	Open drop (0% control)	GTT-1	Storage area to Conveyor BC-01
	Telescoping chute w/water sprays (75% control)	GTT-2	Conveyor BC-01 to Conveyor BC-02
	Gypsum storage dome (95% control)	GTT-3	Conveyor BC-02 to Conveyor BC-03
		GTT-4	Conveyor BC-03 to Conveyor BC-04
		GTT-5	Conveyor BC-04 to Conveyor BC-05
		GTT-6	Conveyor BC-05 to Conveyor BC-06
		GTT-7	Conveyor BC-06 to Barge via telescoping chute

### 3.3 **PROPOSED PROJECT SOURCE CHARACTERIZATION**

#### 3.3.1 **Background on Air Emissions From Project Operations**

Material handling operations generate fugitive particulate matter from wind erosion of open material piles, material transfer, and release of road dusts from truck traffic (during delivery and pickup of materials). The proposed Mirant Coal Blending/Gypsum Loadout Project will be a source of fugitive PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions resulting from coal and gypsum handling during unloading, conveying, reclaiming and loading processes. Based on PPRP's and MDE ARMA's review of the information provided in Mirant's CPCN application, there will be no criteria pollutants other than PM emitted from operation of this project.

#### 3.3.2 **Particulate Matter Emissions**

Mirant presented estimates of PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions (all representing only filterable material) from the project, along with the assumptions made to determine those emissions estimates, in its CPCN application and responses to DNR Data Request Nos. 1-4. PPRP and MDE ARMA used the information in Mirant's submissions to estimate and verify projected PM emissions. A summary of the potential short-term emissions in pounds per hour (lb/hr), and annual emissions in tons per year (tpy), is presented in Table 3-1 for all project activities.

**Table 3-1 Particulate Matter Emissions Summary**

Project Description	Emissions (lb/hr)			Emissions (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Proposed Operations</b>						
Coal Blending Project	6.70	3.17	0.996	3.40	1.61	0.506
Gypsum Loadout Project	2.94	1.33	0.226	1.53	0.438	0.084
Change in Fugitive Emissions	9.64	4.50	1.22	4.93	2.05	0.590

The emission estimates in Table 3-1 are considered to be worst-case emissions based on information provided by Mirant in both its CPCN application, and in subsequent responses to DNR Data Requests. Multiple operating scenarios of the coal unloading and reclaim operations as well as the gypsum loadout operations were evaluated to determine the worst-case operating scenarios.

### 3.3.2.1 Coal Blending Facilities

Mirant indicated that the Morgantown facility will continue to use the coal storage piles on both the North (Pile C) and South yards (Piles A and B). Because Mirant is not intending to track coal throughput totals to individual piles, PPRP and MDE ARMA evaluated the material handling emissions from each unloading scenario to determine the option that represents worst-case emissions. The flow diagram of coal unloading operations (Figure 3-1) indicates four potential unloading options from barge or rail to the North or South yard piles. Emissions estimates for these four scenarios are provided in Table 3-2.

**Table 3-2 Particulate Matter Emissions from Coal Unloading Operations**

Operation & Transportation	Emissions (lb/hr)			Emissions (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Existing Operations</b>						
100% to North or South Yard	9.24	4.37	1.37	3.22	1.52	0.478
<b>Proposed Operations</b>						
100% to North Yard Pile C (or Piles A or B in case of emergency)	9.24	4.37	1.37	3.22	1.52	0.478
100% to South Yard Pile A Route 1	3.02	1.43	0.449	1.05	0.497	0.156
100% to South Yard Pile A Route 2	3.40	1.61	0.505	1.18	0.560	0.176
100% to South Yard Pile B	3.40	1.61	0.505	1.18	0.560	0.176
Change in Coal Unloading Emissions	0.00	0.00	0.00	0.00	0.00	0.00

The unloading operations that result in the greatest fugitive dust emissions occurs when coal is transported to the North yard via the existing stacker and conveyors. Because there is no new equipment associated with the unloading operations to the North yard, and no allowable increase in coal throughput, there is no change in potential fugitive dust emissions from coal unloading.

Similar to unloading operations, multiple scenarios from coal reclaim operations were evaluated. As the coal reclaim operations diagram (Figure 3-2) indicates, coal can be reclaimed from the North yard, South yard, or two “emergency” options from either the existing reclaimer or the proposed stamler feeder. Although the existing reclaimer and proposed stamler feeder will only be used in emergency operating situations, the emergency options are evaluated as an option because coal throughputs will not be monitored by Mirant. In addition to evaluating the proposed emissions, the worst-case scenario was compared with existing operations

to determine the net change in PM emissions from coal reclaim operations. The results are provided in Table 3-3.

**Table 3-3** *Particulate Matter Emissions from Coal Reclaim Operations*

Operation & Transportation	Emissions (lb/hr)			Emissions (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Existing Operations</b>						
100% from North or South Yard	9.35	4.42	1.39	4.75	2.25	0.706
<b>Proposed Operations</b>						
100% from North Yard Pile C	1.09	0.514	0.162	0.552	0.261	0.082
100% from South Yard Pile A or B	1.09	0.514	0.162	0.552	0.261	0.082
100% from Emergency Reclaimer	16.1	7.59	2.39	8.15	3.85	1.21
100% from Emergency Stamler Feeder	5.96	2.82	0.885	3.02	1.43	0.449
<b>Change in Coal Reclaim Emissions</b>	6.70	3.17	0.996	3.40	1.61	0.506

PPRP believes that the maximum potential emissions from the proposed coal reclaim operations will result from the “emergency” reclaimer. Mirant did not include the existing reclaimer as a proposed emergency operating scenario in its application for this case; however, because such operations would be available to Mirant, and Mirant communicates in response to a DNR Data Request that they will need to have this option available, emissions from this operating scenario were considered in PPRP’s evaluation. Although the emergency reclaimer option consists of the same transfer points as the existing normal operations, there is the potential for an increase in fugitive dust emissions from the coal reclaim operations because of a change in potential coal moisture contents (discussed in more detail in Section 3.3.2.3).

Emissions from unloading operations are unchanged (Table 3-2); therefore, the total change in potential fugitive dust emissions from the proposed coal blending facilities (in Table 3-1) is equal to the emissions resulting from the proposed coal reclaim operations (Table 3-3).

### 3.3.2.2 *Gypsum Loadout Facilities*

Mirant proposes that the Morgantown gypsum loadout facility will handle gypsum generated from FGD scrubbers at both Morgantown and Chalk Point. According to information from Mirant in this current Case 9148, the proposed Morgantown gypsum loadout facility will accommodate a maximum of 279,000 tpy of gypsum from Chalk Point that will be delivered to Morgantown primarily by rail, or by truck during

emergencies. Mirant has requested allowance for a maximum of 60,000 tpy gypsum to be delivered via truck from Chalk Point as an emergency option. Therefore, for this emissions estimation exercise, we assume that the worst-case emissions scenario for material handling emissions includes emissions associated with unloading 279,000 tpy from Chalk Point as well emissions from paved roads associated with transporting 60,000 tpy via truck. Because emissions are based on limited (60,000 tpy) trucking of gypsum, PPRP and MDE ARMA are recommending a CPCN licensing condition to limit and monitor the volume of gypsum transported by truck.

Potential PM emissions from the new gypsum loadout equipment were evaluated and compared with PM emissions from rail gypsum loadout operations permitted previously in Case 9085. The sources of fugitive dust emissions from the proposed gypsum loadout facilities include: material handling from gypsum loadout (Figure 3-3); material handling from rail/truck unloading; paved road emissions associated with truck traffic entering Morgantown; and wind erosion from an open conveyor and barges. The results of the change in emissions from the gypsum loadout facilities are provided in Table 3-4.

**Table 3-4 Particulate Matter Emissions from Gypsum Loadout Operations**

Operation & Transportation	Emissions (lb/hr)			Emissions (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Existing (Permitted) Operations</b>						
Material Handling via Rail	0.074	0.035	0.005	0.121	0.057	0.009
<b>Proposed Operations</b>						
Material Handling via Rail or Truck (including paved roads)	2.89	1.30	0.197	1.57	0.454	0.071
Barge Wind Erosion	0.121	0.060	0.033	0.078	0.039	0.021
Conveyor BC-05 Wind Erosion	0.006	0.003	0.002	0.004	0.002	0.001
<b>Change in Gypsum Emissions</b>	<b>2.94</b>	<b>1.33</b>	<b>0.226</b>	<b>1.53</b>	<b>0.438</b>	<b>0.084</b>

3.3.2.3 *Calculation and Assumptions*

The maximum short-term and potential annual emissions from the proposed Project were calculated by PPRP using information and assumptions provided by Mirant and EPA emission factors from the following sources:

- AP-42 Section 13.2.4 – Aggregate Handling and Storage;
- AP-42 Section 13.2.1.3 – Paved Roads; and

- Fugitive Dust Background Document and Technical information Document for Best Available Control Measures – EPA-450/2-92-004.

The existing Morgantown coal barge unloader is licensed at a maximum throughput of 5,000,000 tpy (PSC Case 9031). Of this amount, an estimated 2,000,000 tpy is loaded directly onto railcars for shipment to Chalk Point. Therefore, for this emissions evaluation by PPRP, the maximum allowable coal throughput for the Morgantown coal blending facility was assumed to be 3,000,000 tpy.

For the gypsum loadout facility, Mirant indicates in the CPCN application for this Case 9148 a maximum throughput of 800,000 tpy, comprised of 493,000 tpy from Morgantown, 279,000 tpy from Chalk Point, and a 3.5% safety factor. This is a discrepancy from the previous Morgantown cases. The gypsum production rates approved under Case 9085 for Morgantown were 703,000 tpy, and under Case 9086 for Chalk Point were 382,000 tpy, which represents a total gypsum volume of 1,085,000 tpy from the two facilities combined. Mirant indicated in responses to DNR Data Requests that 800,000 tpy is a conservatively high estimate based on knowledge of the FGD projects to date. Therefore, the maximum allowable gypsum throughput for the proposed gypsum loadout facility is 800,000 tpy, which is substantially lower than that which would have been allowed under prior Cases 9085 and 9086.

The following assumptions were provided by Mirant and/or verified by PPRP in order to calculate emissions of PM, PM<sub>10</sub>, and PM<sub>2.5</sub> based on AP-42 guidance:

- Particle size multipliers for coal handling: PM – 0.74, PM<sub>10</sub> – 0.35, PM<sub>2.5</sub> – 0.11 (AP-42);
- Particle size multipliers for gypsum handling: PM – 0.74, PM<sub>10</sub> – 0.35, PM<sub>2.5</sub> – 0.053 (AP-42);
- Particle size multipliers for paved roads: PM – 0.082, PM<sub>10</sub> – 0.016, PM<sub>2.5</sub> – 0.0024 (AP-42);
- Silt content for gypsum (crushed limestone): 1.9% (AP-42);
- Annual mean wind speed: 9.5 mph (Reagan National Airport);
- Daily mean wind speed: 19 mph (Reagan National Airport);
- Average time with 0.01 inches precipitation: 114 days/year (Reagan National Airport);
- Percentage of time wind speed exceeds 5.4 m/s: 24.9% (Reagan National Airport);



- Road surface silt loading: 1 g/m<sup>2</sup> (Golder Study)
- Miles traveled per truck: 1.74 miles/truck;
- Existing moisture content of coal: 6.62%;
- Proposed moisture content of coal: 4.5% (AP-42); and
- Proposed moisture content of gypsum: 10%.

Lower coal moisture contents generally mean higher potential PM emissions (drier materials are generally more susceptible to transport by wind). Mirant indicated the 4.5% moisture content for “future” coals represents the worst-case scenario. PPRP considered “existing” coals with a moisture content of 6.62% to envelope the range of coals that may potentially be brought in by barge.

The emission estimates incorporate controls Mirant is proposing to implement throughout the coal blending and gypsum loadout operations to minimize fugitive dust. Specifically, the project will incorporate in its design the following fugitive dust suppression technologies with the indicated PM control efficiencies:

- Partially enclosed transfer stations with a minimum 70% control efficiency,
- Enclosed transfer stations with a minimum 95% control efficiency,
- Enclosed reclaim tunnels with a minimum 99% control efficiency,
- Water sprays with a minimum 60% control efficiency, and
- Telescoping chute with water sprays with a minimum 75% control efficiency.

The control efficiencies cited above are believed to be reasonable values based on guidance in EPA’s “Fugitive Dust Background Document and Technical information Document for Best Available Control Measures (EPA-450/2-92-004).” In particular, these estimated control efficiencies seem appropriate based on reductions in emissions that should be achievable, when considering wind speeds expected at the facility. With the exception of Conveyor BC-05, all conveyors were considered covered and enclosed, resulting in no additional fugitive dust emissions between transfer points. No controls (e.g., watering, barge enclosures) were considered for the barge or Conveyor BC-05 in order to obtain a conservative estimation of wind erosion emissions.

Mirant proposed control efficiencies of 90%, instead of 95%, for enclosed transfer points in the recent Morgantown Cases 9031 and 9085, and Chalk Point Case 9086. PPRP and MDE ARMA reviewed Mirant's current proposal and agree that PM controls as proposed can reasonably be expected to achieve a 95% level of PM control. Wind speed is a significant parameter used in the calculation methodology when estimating emissions from material handling operations. Mirant indicates that reductions of wind speed resulting from fabricated enclosures will be approximately one mile-per-hour. PPRP and MDE ARMA are in agreement that such an assumption is representative.

Appendix B provides PPRP's detailed calculations for PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions estimates.

### 3.3.3 *Hazardous Air Pollutant Emissions*

The Mirant Coal Blending/Gypsum Loadout Project has the potential to emit very small quantities of hazardous air pollutants (HAPs). These HAPs consist of metals naturally occurring in the coal or gypsum dust that will be emitted as a fugitive PM. PPRP and MDE ARMA reviewed the HAPs concentrations provided in Mirant's application for this case, as well as previous Morgantown cases (Cases 9085 and 9031). The maximum HAP concentrations provided in either the current or previous cases were used by PPRP to determine HAPs on a worst-case basis. Emission estimates for these HAPs, provided in Table 3-5, indicate that no individual HAP will be emitted in quantities greater than 0.0102 tpy. The total emissions of all the HAPs from the project will be 0.0159 tpy. The thresholds for major source for HAPs are 10 tpy for any individual HAP and 25 tpy for facility-wide total HAPs. As illustrated in Table 3-5, the HAP emissions from the project are not significant and do not exceed major source applicability thresholds.

**Table 3-5 Hazardous Air Pollutant Emissions Summary**

HAP/TAP	TAP Class	Concentration ppm (w/w)	PM <sub>10</sub> Total		PM <sub>2.5</sub> Total	
			lb/hr	tpy	lb/hr	tpy
Arsenic	I	26	3.17E-04	1.42E-04	9.88E-05	4.44E-05
Beryllium	I	2.22	2.66E-05	1.19E-05	8.35E-06	3.75E-06
Cadmium	I	0.44	1.03E-05	4.37E-06	2.50E-06	1.08E-06
Nickel	I	22	3.13E-04	1.38E-04	9.12E-05	4.06E-05
Antimony	II	0.81	9.69E-06	4.35E-06	3.05E-06	1.37E-06
Barium	II	84.4	4.67E-03	1.92E-03	9.37E-04	3.90E-04
Chlorine	II	1900	2.27E-02	1.02E-02	7.14E-03	3.21E-03
Chromium	II	26.7	1.23E-03	5.09E-04	2.55E-04	1.07E-04
Cobalt	II	11	1.41E-04	6.28E-05	4.29E-05	1.92E-05
Copper	II	19.91	2.38E-04	1.07E-04	7.49E-05	3.36E-05
Fluorine	II	83	9.93E-04	4.46E-04	3.12E-04	1.40E-04
Manganese	II	36	2.44E-03	9.98E-04	4.76E-04	1.97E-04
Mercury	II	0.42	6.85E-06	2.99E-06	1.89E-06	8.34E-07
Molybdenum	II	16.1	1.93E-04	8.66E-05	6.05E-05	2.72E-05
Selenium	II	3.8	4.56E-05	2.05E-05	1.43E-05	6.43E-06
Silver	II	0.13	3.38E-06	1.43E-06	7.99E-07	3.44E-07
Tellurium	II	59.54	7.12E-04	3.20E-04	2.24E-04	1.01E-04
Thallium	II	0.92	1.10E-05	4.95E-06	3.46E-06	1.55E-06
Vanadium	II	30.98	3.71E-04	1.67E-04	1.16E-04	5.23E-05
Zinc	II	96.3	1.52E-03	6.64E-04	4.24E-04	1.87E-04
Lead	II	10	1.20E-04	5.38E-05	3.76E-05	1.69E-05
<b>TOTAL HAPs</b>			<b>3.61E-02</b>	<b>1.59E-02</b>	<b>1.03E-02</b>	<b>4.58E-03</b>

### 3.3.4 Toxic Air Pollutant Emissions

The pollutants identified as HAPs would also be considered Toxic Air Pollutants (TAPs) in the State of Maryland. TAPs require a screening analysis in accordance with COMAR 26.11.15 to ensure that there are no unacceptable impacts from TAP emissions. MDE exempts fuel burning sources from TAP requirements based on COMAR 26.11.15.03(a)(1) and COMAR 26.11.02.09; however, this project is not a fuel burning source, and will be subject to TAP regulations.

For the TAP analysis, risk screening levels for each TAP are determined based on threshold limit values (TLVs) for occupational exposure (in micrograms per cubic meter,  $\mu\text{g}/\text{m}^3$ ). COMAR 26.11.16.02 provides a table of allowable emission rates for TAPs, based on different ranges of screening levels. Table 3-6 presents emission estimates for each TAP from this project, screening levels, and allowable emission rates. The analysis indicates that the emissions of each TAP from the project meet the screening analysis requirements.

The Project TAPs are from fugitive PM emissions; the emissions will generally be well controlled by project design and should meet Best Available Control Technology for Toxics (T-BACT) requirements.

**Table 3-6 Toxic Air Pollutant Compliance Demonstration**

TAP	TAP Class	Screening Level <sup>1</sup>			Allowable Emissions <sup>2</sup>		Actual Emissions		Compliance Demonstration	
		1-hour (µg/m <sup>3</sup> )	8-hour (µg/m <sup>3</sup> )	Annual (µg/m <sup>3</sup> )	lb/hr	lb/yr	lb/hr	lb/yr	with lb/hr Std.	with lb/yr Std.
Arsenic	I		0.1	0.0012	3.58E-04	0.44	3.17E-04	7.11E-08	YES	YES
Beryllium	I	0.1	0.02	0.0024	7.17E-05	0.88	2.66E-05	2.39E-02	YES	YES
Cadmium	I		0.02	0.0036	7.17E-05	1.31	1.03E-05	4.73E-03	YES	YES
Nickel	I		1	0.0417	3.58E-03	15.22	3.13E-04	2.37E-01	YES	YES
Antimony	II		5		1.79E-02		9.69E-06	8.71E-03	YES	
Barium	II		5		1.79E-02		4.67E-03	9.07E-01	YES	
Chlorine	II	29	14.5		5.20E-02		2.27E-02	2.04E+01	YES	
Chromium	II		5		1.79E-02		1.23E-03	2.87E-01	YES	
Cobalt	II		0.2		7.17E-04		1.41E-04	1.18E-01	YES	
Copper	II		2		7.17E-03		2.38E-04	2.14E-01	YES	
Fluorine	II	31.1	15.5		5.57E-02		9.93E-04	8.92E-01	YES	
Manganese	II		2		7.17E-03		2.44E-03	3.87E-01	YES	
Mercury	II		0.25		8.96E-04		6.85E-06	4.52E-03	YES	
Molybdenum	II		5		1.79E-02		1.93E-04	1.73E-01	YES	
Selenium	II		2		7.17E-03		4.56E-05	4.09E-02	YES	
Silver	II		0.1		3.58E-04		3.38E-06	1.40E-03	YES	
Tellurium	II		1		3.58E-03		7.12E-04	6.40E-01	YES	
Thallium	II		1		3.58E-03		1.10E-05	9.89E-03	YES	
Vanadium	II		0.5		1.79E-03		3.71E-04	3.33E-01	YES	
Zinc	II		500		1.79E+00		1.52E-03	1.04E+00	YES	
Lead	II		0.5		1.79E-03		1.20E-04	1.08E-01	YES	

Notes:

<sup>1</sup> - Screening Level from MDE List of Screening Levels, May 2005.

<sup>2</sup> - Allowable Emissions determined from COMAR 26.11.16.02 and .03

### 3.3.5 Construction Emissions

Mirant provided estimated construction emissions in its response to DNR Data Request No. 1, that construction activity will generate PM emissions from ground excavation, grading, cut-and-fill operations, and related activities. Fugitive dust emissions will be produced from trucks traveling over the paved roads. Additional fugitive emissions may be generated from wind erosion of open excavation areas during construction. Minimal emission of VOCs, CO, SO<sub>2</sub>, and NO<sub>x</sub> will be emitted from the exhaust from construction equipment.

PPRP and MDE ARMA have reviewed the construction emissions presented by Mirant and agree that emission of VOCs, CO, SO<sub>2</sub>, NO<sub>x</sub> from equipment exhaust, along with PM, PM<sub>10</sub>, and PM<sub>2.5</sub> from construction activities will be minimal.

### 3.4 *APPLICABILITY OF NEW SOURCE REVIEW (NSR) REGULATIONS*

EPA has defined concentration-based National Ambient Air Quality Standards (NAAQS) for several pollutants, which are set at levels considered to be protective of public health and welfare. Specifically, the NAAQS have been defined for six “criteria” pollutants – PM, SO<sub>2</sub>, nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), ozone, and lead. Air emissions limitations and pollution control requirements are generally more stringent for sources located in areas of the country that do not currently attain a NAAQS for a particular pollutant (known as “nonattainment” areas).

As described in Section 2, the proposed project will be located at Mirant’s existing Morgantown Generating Station in Charles County, Maryland. The air quality in Charles County, which is designated as “Area V” (COMAR 26.11.01.03) by ARMA, is currently in attainment for all pollutants with the exception of ozone and PM<sub>2.5</sub>. Emissions are regulated more stringently in nonattainment areas to ensure that air quality is not further degraded (i.e., the ambient air concentrations of ozone do not continue to increase as new sources of emissions are constructed).

In May 2008, EPA finalized New Source Review (NSR) regulations for PM<sub>2.5</sub> that address direct PM<sub>2.5</sub> emissions and emissions of PM<sub>2.5</sub> precursors SO<sub>2</sub> and NO<sub>x</sub>. Ammonia and VOC are also PM<sub>2.5</sub> precursors; however, they are not addressed for PM<sub>2.5</sub> NSR purposes unless a state elects to regulate these pollutants.

Potential emissions from new and modified sources in attainment areas are evaluated through the Prevention of Significant Deterioration (PSD) program (COMAR 26.11.06.14). The goal of the PSD program is to ensure that emissions from major sources do not degrade air quality. Triggering PSD requires pollution control known as Best Available Control Technology (BACT) and additional impact assessments.

Potential emissions from new and modified sources in nonattainment areas are evaluated through the Nonattainment Area New Source Review (NA-NSR) program (COMAR 26.11.17). The goal of the NA-NSR program is to allow construction of new emission sources and modifications to

existing sources, while ensuring that progress is made towards attainment of the NAAQS. Triggering NA-NSR indicates that a project could adversely impact air quality, which means that impacts must be managed. NA-NSR requires that major sources of nonattainment pollutants limit emissions of pollutants through the implementation of the most stringent levels of pollution control, known as Lowest Achievable Emission Rate (LAER). In addition, NA-NSR requires pollutant “offsets” to be obtained for every ton of regulated pollutant emitted.

Because the coal blending and gypsum barge loadout facilities will be located in a nonattainment area for ozone and PM<sub>2.5</sub>, and an attainment area for the other pollutants, PPRP and ARMA assessed applicability with both NA-NSR and PSD to ensure that no adverse impacts would be caused by the proposed project. The results of these evaluations for the proposed project are discussed in Sections 3.4.1 and 3.4.2.

Other federal and State air quality regulations will apply to the proposed project. These regulations apply either as a result of the type of emission source that is to be constructed, or as a result of the pollutants to be emitted from the system.

### **3.4.1**      *Applicability of PSD Regulations*

The Morgantown facility is an existing major source, as defined in PSD regulations; therefore, any modifications at the facility must be evaluated to determine whether the resulting emission changes would constitute a “major modification” under PSD (40 CFR §52.21(b)(2)) referenced in COMAR 26.11.06.14). The PSD applicability analysis is conducted for pollutants for which the air quality in the vicinity of the plant is designated attainment, which in Charles County includes SO<sub>2</sub>, NO<sub>x</sub>, PM/PM<sub>10</sub>, CO, and lead.

As previously indicated, the Coal Blending/Gypsum Loadout Project activities are a source of fugitive PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions, and lead emissions (as a component of PM). The project does not include any changes to the combustion sources (Units 1 and 2) and Mirant has indicated in Section 6.2 of its CPCN application that both the permitted barge and existing rail unloading operations and coal transfer to the Morgantown coal yards will remain unchanged as a result of the proposed project. The project will not enable an increase in coal throughput, nor will it enable Mirant to burn more coal in the Morgantown boilers. This means, according to Mirant’s application, that there will be no emissions increases from other sources outside of the

proposed project equipment that would need to be accounted for in the PSD applicability assessment.

Under PSD, because Morgantown is an existing major source, the Coal Blending/Gypsum Loadout Project would be subject to PSD if project emissions exceeded the significant emission thresholds. Table 3-5 shows that potential net emission increases are below PSD thresholds and therefore, the project is not subject to PSD review.

**Table 3-5** *Potential Emissions From the Proposed Mirant Coal Blending/ Gypsum Loadout Project and PSD Significant Emissions Thresholds*

<b>Pollutant</b>	<b>Project Potential Emissions (tpy)</b>	<b>PSD Significant Emission Thresholds (tpy)</b>
PM	4.93	25
PM <sub>10</sub>	2.05	15
Lead	0.02	0.6

Note that this evaluation assumes that: 1) the two proposed activities – coal blending and gypsum loadout – are one single “project” for air quality permitting purposes, and 2) the proposed project is not part of any other recently proposed and licensed projects, including the Barge Unloader (Case 9031) and/or the FGD project (Case 9085).

### 3.4.2 *Applicability of NA-NSR Regulations*

As mentioned previously, Charles County, in which the Morgantown facility is located, is a nonattainment area for ozone and PM<sub>2.5</sub>. The Coal Blending/Gypsum Barge Loadout Project was evaluated to determine whether the net emission increase of PM<sub>2.5</sub> is above the NA-NSR threshold of 10 tpy. The project has the potential to emit PM only, so no PM<sub>2.5</sub> precursors (i.e., SO<sub>2</sub> and NO<sub>x</sub>) evaluation was required.

On May 16, 2008, EPA promulgated final rules for the implementation of the NSR for PM<sub>2.5</sub>. Under the final rule, major sources of PM<sub>2.5</sub> will be subject to the requirements of NSR after July 16, 2008. If a state has a SIP-approved NA-NSR program, which is the case for Maryland, the requirements of 40 CFR Part 51, Appendix S, will be in effect during an interim period in which states develop PM<sub>2.5</sub>-specific NA-NSR requirements and the time in which EPA approves the revised SIP

submitted by the state to incorporate the requirements of the final rule. The key provisions of Appendix S require LAER for all major PM<sub>2.5</sub> sources and require major sources to obtain emission offsets for any increases of direct PM<sub>2.5</sub> and its precursors (if above the significant emission thresholds).

As seen in Table 3-6, PM<sub>2.5</sub> emissions from the proposed Coal Blending/Gypsum Loadout Project are less than the significance threshold for PM<sub>2.5</sub>.

**Table 3-6** *Potential PM<sub>2.5</sub> Emissions From the Project and NA-NSR Major Modification Emissions Threshold*

<b>Pollutant</b>	<b>Project Potential Emissions (tpy)</b>	<b>NA-NSR Major Modification Threshold</b>
PM <sub>2.5</sub>	0.590	10 (direct PM <sub>2.5</sub> )

Again, note that this evaluation assumes that: 1) the two proposed activities – coal blending and gypsum loadout – are one single “project” for air quality permitting purposes, and 2) the proposed project is not part of any other recently proposed and licensed projects including the Barge Unloader (Case 9031) and/or the FGD project (Case 9085).

### 3.5 *APPLICABLE REQUIREMENTS REVIEW*

This section outlines the federal and State air quality requirements to which the Mirant Morgantown Coal Blending/Gypsum Loadout Project will potentially be subject.

The Morgantown Generating Station itself is subject to a host of State and federal programs not affected by this case. These requirements are addressed in Morgantown’s Title V operating permit issued by MDE (No. 24-017-00014).

#### 3.5.1 *Federal Requirements*

Because the Mirant Coal Blending/Gypsum Loadout Project is a minor modification under the PSD and NA-NSR, the Project is not subject to any major source emission control requirements (BACT or LAER). Further,



based on the type of air emission source and the level of potential HAP emissions from the project (maximum individual HAP emission rate of 0.0102 tpy and total HAP emission rate of 0.0159 tpy) there are no National Emissions Sources of Hazardous Air Pollutants (NESHAP) standards applicable to this facility.

### 3.5.1.1 *NSPS Subpart Y – Coal Preparation Plants*

Portions of the existing coal handling facilities at Morgantown are considered a “coal preparation plant” under New Source Performance Standards (NSPS) Subpart Y “Standards of Performance for Coal Preparation Plants” because Mirant operates coal sizing operations at the facility’s Breaker House. Because the existing coal handling facilities at Morgantown were constructed in 1967 prior to the NSPS Subpart Y effective date (24 October 1974), the facility had not previously been subject to NSPS Subpart Y until Mirant’s proposed coal barge unloading project was approved in Case 9031.

Under NSPS Subpart Y, a coal preparation plant means any facility (excluding underground mining operations) that prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying. An “affected facility” under NSPS Subpart Y prepares more than 200 tons of coal per day via thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, or coal transfer and loading systems.

Because Mirant’s proposed addition of the Barge Unloading Project (Case 9031) involved the transfer of coal by new conveyors that would ultimately connect to Morgantown’s existing breakers (where coal is sized prior to its storage or use), and the project resulted in an increase in PM, the Case 9031 coal unloading and handling equipment became subject to NSPS Subpart Y. NSPS General Provisions (40 CFR Part 60.14) indicate that an expansion at an affected facility (i.e., coal preparation plant) does not draw in all existing equipment into Subpart Y; only the “new” and “modified” equipment is subject to Subpart Y requirements.

Mirant’s current proposal to construct a coal blending facility involves the installation of new conveying equipment that will be directly connected to Morgantown’s existing coal breaker. The new “affected facility” that would be covered by NSPS, in this case, is the new conveying equipment intended for unloading coal to the Morgantown South coal yard. This equipment would be associated with new transfer points N1-N7 (Figure 6.2-1 in Mirant’s CPCN application and Figure 3-1 in this Environmental

Review Document). The new reclaim conveyors and transfer points (NRN1, NRN2, NR3, NRS1, and NRS2) are not connected to the coal breaker and the coal that is conveyed in the new reclaim system comes directly from storage (North or South coal yards). The NSPS Subpart Y definition of “coal processing and conveying equipment” is:

Any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts.

The next consideration when making applicability determination for NSPS is whether the affected facility constitutes a “modification” under NSPS provisions (40 CFR 60). PPRP and MDE ARMA have evaluated the emissions associated with the coal blending facility. As noted in Table 3-2, the newly affected facility under NSPS Subpart Y (equipment associated with transfer points N1-N7) will not result in an increase in PM emissions and therefore is not a modification under NSPS.

### 3.5.1.2 *NSPS Subpart OOO – Nonmetallic Mineral Processing Plants*

PPRP and MDE ARMA evaluated the applicability of 40 CFR 60 Subpart OOO, the NSPS for Nonmetallic Mineral Processing Plants. By definition in 40 CFR 60.671, gypsum is considered a nonmetallic mineral. Belt conveyors are considered affected facilities under the rule; however, the gypsum loadout facility as proposed does not fit the definition of a “nonmetallic mineral processing plant” under the NSPS. Non-metallic mineral processing plants under NSPS Subpart OOO are defined as:

Any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in §60.670 (b) and (c).

Mirant, in response to DNR Data Request No. 1, indicated that its request for adding gypsum handling facilities does not include activities or equipment intended for crushing or grinding the gypsum. Mirant indicated they intend to dewater the gypsum to approximately 90 percent solids using belt filters; however, no further processing or conditioning is proposed. Therefore, the gypsum loadout conveyors will not be subject to NSPS Subpart OOO.

### 3.5.2 *State Requirements*

In addition to the facility-wide requirements already addressed in Mirant's Title V Operating Permit for Morgantown, which will also apply to the coal blending and gypsum barge loadout operations, the proposed new facility will be subject to the following:

- COMAR 26.11.06.03D – MDE's regulations for PM emission controls for material handling and construction activities. The regulation requires "reasonable precautions" to prevent PM from becoming airborne from material handling activities;
- COMAR 26.11.06.08 Nuisance – Prohibits Mirant from operating or maintaining a source in such a manner that a nuisance is created; and
- COMAR 26.11.06.09 Odors – Prohibits Mirant from causing or permitting the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.

## 4.0 *IMPACTS TO OTHER RESOURCES*

### 4.1 *IMPACTS TO WATER SUPPLY, DISCHARGES AND STORM WATER*

#### 4.1.1 *Surface Water - Lower Potomac River*

According to Mirant's CPCN application, there will be no new discharges to surface waters during construction or operation of the proposed project; therefore, there is no expected change in water quality due to the construction and operation of the proposed coal blending/gypsum loadout project. The project components have been designed to minimize potential impacts from gypsum and coal dust as the equipment passes over land and water.

#### 4.1.2 *Ground Water Usage*

Water use associated with the project is mainly for automatic dust suppression, in addition to potable water use by construction workers. Dust control will be accomplished by the use of low-volume, high-aerosol spray nozzles to maximize efficient use of water. Mirant expects that approximately 0.5 gallon of water per minute (gpm) per transfer point will be used for dust control, which it estimates to be a total of 3 gpm for operation of the entire project.

The current appropriation limit for ground water withdrawal from the Lower Patapsco aquifer for the Morgantown facility is 0.70 mgd. Since 1975, the average daily ground water withdrawal has varied from approximately 0.80 mgd in the mid- to late-1970s (the original appropriation amount was 0.82 mgd) to less than 0.58 mgd in 2004. Accordingly, PPRP recognizes that the proposed water use for dust control can be accommodated under the existing water allocation permit for the Morgantown site. PPRP recommends a licensing condition that would require Mirant to submit a modified or amended water appropriation permit application to MDE if any changes to the existing appropriation are required.

#### 4.1.3 *Storm Water*

The aerial extent of the coal yard will not change as a result of the proposed project, and the rail unloading facility as proposed will be located within a previously developed area. Therefore, increases in the

volume of storm water to be generated are anticipated to be negligible. Mirant has indicated that all storm water generated during the construction and operation of the coal blending and gypsum loadout equipment will be routed to and treated by the existing storm water system, which entails collecting water in ponds on the property. As the collection ponds are currently in operation, the storm water impacts to surface waters in the vicinity of the facility from the proposed equipment are likely negligible. Mirant has stated that their existing Storm Water Pollution Prevention Plan (SWPPP) will be updated to account for the additional sumps that are proposed for the transfer towers and reclaim tunnels. The updated plan will ensure that the project will use Best Management Practices (BMPs) for controlling storm water pollution. PPRP has included in its recommended licensing conditions that Mirant be required to update its SWPPP.

The primary impacts to surface waters will be erosion and sedimentation associated with construction activities. These impacts will be controlled and minimized through proper design and placement of runoff-control features (e.g., hay bales, silt fencing, berms) and impacts to the surface waters will be minimal. According to Mirant's CPCN application, an erosion and sediment control plan will be prepared for all areas of disturbance associated with the construction activities of this project. Control methods will comply with the Charles County requirements and BMPs. Mirant also states that a Notice of Intent (NOI) will be filed to obtain coverage under the MDE Storm Water NPDES General Permit for construction activity.

#### **4.1.4**      *Wastewater*

As noted previously, Mirant will collect and treat the additional storm water that is generated from the construction and operation of the coal blending and gypsum loadout facilities in the existing storm water management system. Other than the additional quantities of this storm water that are generated, no new wastewater streams are expected to be created from the project's operation. As such, no adverse water quality impacts with respect to wastewater will result and the current NPDES permit for the facility should not require revision.

#### **4.1.5**      *Construction Dewatering*

Section 4.2.1 of Mirant's CPCN application indicates that excavation of the reclaim tunnels and transfer tower foundations will only required limited dewatering, since the excavations will be no greater than 15 feet below grade. Mirant also indicates that it will obtain a NPDES water discharge

permit if dewatering exceeds 10,000 gallons per day on a monthly average.

Although the issuance of the CPCN includes the State's approval to appropriate waters of the State, the State has determined that the construction dewatering permit can be issued at a later date. Therefore, the State recommends a license condition that requires Mirant to obtain a permit from MDE Water Management Administration (WMA) for temporary dewatering during construction if the dewatering exceeds an average of 10,000 gallons per day or 30 calendar days, including intermittent periods of non-pumping. The permit application for temporary dewatering during construction must be submitted to MDE six months in advance of the initiation of dewatering. Specific impacts associated with dewatering will be addressed and any mitigation recommended during the permitting period.

## **4.2**            ***BIOLOGICAL RESOURCE IMPACTS***

### **4.2.1**        ***Impacts to Vegetation and Land Cover***

There are no expected adverse impacts to vegetation and land cover due to the construction or operation of the proposed project given the previously developed nature of the project site. The proposed facilities traverse existing asphalt parking lots, roadways and other developed areas.

### **4.2.2**        ***Impacts to Wetlands***

No adverse impacts to tidal or non-tidal wetlands are expected as there are no wetlands within the immediate vicinity of the proposed project. The point in the shoreline where the gypsum loadout conveyor crosses is co-located with the pier being constructed under the previously licensed PSC Case No. 9031.

### **4.2.3**        ***Impacts to Wildlife***

The existing developed nature of the site, including the existing roadways, human presence, and lack of forested habitat, greatly reduces the quality of the area for wildlife habitat. No significant adverse impacts to wildlife resources would likely occur as a result of construction of the proposed coal blending/gypsum loadout project.

#### **4.2.4**      *Impacts to Threatened and Endangered Species*

No threatened or endangered species have been documented utilizing the Morgantown site or its immediate vicinity; therefore, no significant impacts to federal or State-listed terrestrial plants or animals are anticipated.

### **4.3**            **SOCIOECONOMIC AND CULTURAL IMPACTS**

#### **4.3.1**      *Employment and Income*

Construction of the coal blending and gypsum handling facilities will create as many as 90 craft jobs during the peak construction period. Over the 9-month project schedule, an average of 55 construction workers will be on-site. Mirant estimates that construction payrolls will total \$7 million over construction period. (All dollar estimates are in 2008 dollars.) No additional employees will be required to operate the coal blending facility; however, four additional employees would be hired to operate the gypsum handling facility.

Additional economic benefits will result from purchases of goods and services during both the construction and operation phases of the project. Mirant estimates that of its \$28 million investment, approximately \$25 million represents subcontracts costs, including construction worker salaries. Most building materials used will be acquired from Maryland and Northern Virginia. Construction equipment would be rented locally.

#### **4.3.2**      *Population and Housing*

Although labor market conditions and low unemployment could affect labor availability and hiring, most construction jobs are expected to be filled by construction workers living within daily commuting distance of the project. As a result, few effects on population and housing are anticipated from construction activities. No adverse population or housing effects from in-migrating labor are expected from additional operations and maintenance (O&M) employment at Morgantown.

#### **4.3.3**      *Land Use*

The proposed project constitutes modifications to Mirant's coal and gypsum storage and coal barge unloader facilities and would be contiguous to these assets.

Because the project area is already zoned IH – Heavy Industrial and is in an Employment and Industrial Park District, no rezoning or change of land use will result from the project. No lands outside the Morgantown property will be pre-empted from other uses.

Approximately one-half of the Morgantown site lies within the Chesapeake Bay Critical Area. Much of the area is already developed; only 30 percent of the site is undeveloped and contains some wetland and upland habitats. The project will be within areas that have been previously disturbed. The County’s Comprehensive Plan designates the Morgantown site as an IDA. The criteria set forth in conjunction with the Critical Area Act require that any development or redevelopment within an IDA be accompanied by practices to reduce water quality impacts associated with storm water runoff to a level at least 10% below the load generated by the same site prior to development, a requirement commonly referred to as the “10% Rule.”

In 1995 Charles County and PEPCO entered into negotiations over a Memorandum of Understanding (MOU) that would have set out Best Management Practices to bring the Morgantown facility into compliance with the 10% Rule and establish a basis for a “Pollutant Load Bank Balance Sheet” (PLBB), a system of credits and debits that could be applied to future permanent disturbances within the Critical Area. That MOU was never executed. At the time of the negotiations, the total area of impervious surface within the Critical Area was calculated to be 42.51 acres (20.85% of the Critical Area acreage).

When the applicant’s final engineering plans are completed, surveys and calculations should be made in order to properly assess the project’s status vis-à-vis the 10% Rule. PPRP has recommended a licensing condition that requires Mirant, prior to construction, to confirm with PPRP and Charles County that Morgantown will be in compliance with the MOU regarding storm water.

No indirect effects on surrounding land uses are expected from the proposed modifications to the Morgantown facility.

#### **4.3.4**      *Transportation*

The project will be a minor trip generator during peak construction activities when up to 90 workers will be commuting to the project site, although the additional vehicles are not expected to affect existing traffic near the entrance to the site. Once operational, the traffic from the



additional O&M workforce would have no adverse effect upon local roads and intersections.

Barges carrying the gypsum byproduct would presumably navigate downstream from Morgantown. Mirant expects an average of about one barge per week would transport gypsum, including the gypsum from Chalk Point. Commercial river traffic on the Potomac now consists of an occasional oil barge to Morgantown and small ocean-going vessels bound for the Robinson Terminal in Alexandria, Virginia. Once operational, the coal barge unloader at Morgantown is expected to add four to five barges carrying coal and about one barge carrying limestone per week to the Potomac River. The additional gypsum barges on the lower Potomac would therefore constitute an insignificant increase in commercial river traffic.

In its review of Mirant's applications for a coal barge unloading facility (PSC Case #9031) and APC system (Case #9085), the NSWCDD concluded that the Navy does not anticipate a significant impact to its operations on the Potomac River Test Range (PRTR) given the anticipated level of activity at the Morgantown barge unloading facility<sup>44</sup>. After direct consultations with NSWCDD, Mirant agreed to schedule barge traffic through the PRTR outside the range's normal operating hours, where feasible, and to coordinate alternate schedules with the Navy when PRTR operations pose undue hardship to barge shipments. Mirant also agreed to collaborate with the Navy to establish operating protocols and communications processes to minimize the impact of the Navy's range operations on commercial water traffic.

It is assumed that Mirant would coordinate the additional barge traffic generated by the gypsum loadout facility within the scope of its 2007 agreement with NSWCDD. Given the minor increase in barge traffic from gypsum byproduct operations, the facility is expected to have a minimal adverse effect upon Dahlgren's range activities.

Gypsum would be transported from Chalk Point to the Morgantown facility via rail. Assuming 100-ton capacity hopper cars, between 36 and 52 rail cars per week would be needed to transport gypsum byproduct to Morgantown. The backup option for transporting gypsum to

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<sup>44</sup> NSWCDD 2007. Letter to Mr. Ray Bourland, Executive Secretary, Maryland Public Service Commission from J. L. McGettigan, Captain, U.S. Navy Commander, NSWCDD and J. L. Smith, Captain, U.S. Navy Commanding Officer, NSASP. April 24, 2007.

Morgantown is truck. Assuming 20-ton capacity trucks, between 180 and 260 trucks per week would be needed to haul gypsum byproduct to Morgantown. Trucking gypsum from Chalk Point to Morgantown is problematic because the most direct route (US 301-MD 234-MD 236-MD 5-MD 231-MD 381) traverses rural highways through Charles and St. Mary's Counties. Some of these highways are also part of a state Scenic Byway and/or Southern Maryland Heritage Driving Tour, passing through an Amish community near Mechanicsville. Mirant does not designate truck routes in its contracts with haulers, leaving the distribution of truck traffic largely unregulated.

Because of the potential for increased truck traffic from gypsum loadout facility operations, PPRP has recommended a licensing condition that permits Mirant to transport gypsum by truck only in the event of an emergency and only upon notification to the Maryland State Highway Administration. The condition includes provisions for consultation with the Maryland State Highway Administration and the Charles County Department of Public Facilities to identify truck routes to minimize the impact of truck traffic on the public and for halting the trucking of gypsum when the emergency conditions no longer exist.

#### 4.3.6 *Fiscal Impacts*

Fiscal impacts from the project would be in the form of tax revenues and government expenditures on public services. During construction, revenues from taxes on construction worker wages, income taxes on indirect employment incomes, and sales taxes on consumption expenditures would accrue to Maryland and County coffers.

During construction, County tax revenues would accrue from personal income taxes on direct (construction) and indirect income, and would be distributed among all counties where employed workers, both direct and indirect, reside. As most of the construction labor force is expected to be drawn from Charles, Prince George's, St. Mary's and other nearby counties including those in northern Virginia, the project would generate most income tax revenues in these jurisdictions.

Income and sales tax revenues would continue to be generated by the project when it is operational, but at a lower level. Sales tax revenues would also accrue from Mirant's purchases of goods and services from Maryland firms and from personal consumption expenditures by direct (O&M) and indirect employment.

Property tax revenues paid by Mirant to Charles County would increase after improvements to real property are made but, the modification would have only a minor impact on Country property tax revenues.

Incremental State and County tax revenues from the project are expected to more than offset public expenditure costs, particularly since no population effects are anticipated either from construction or operation of the facility. Mirant would not require an extraordinary level of public services to undertake the modification to the Morgantown Generating Station.

#### 4.3.5 *Visual Quality*

The landscape around the Morgantown facility consists of flat to slightly rolling terrain, with most of the surrounding land in cropland or forest. Set on the Potomac River, barge operations would be visible along the shoreline of the Northern Neck of Virginia from Mathias Point to Colonial Beach, and from selected locations, such as Lower Cedar Point on the Maryland side.

From a visual perspective, construction activities could create temporary visual disturbances from wind-blown dust during earth moving activities, but these events would be minimized by good construction practices. As a result, the most visible element during construction is likely to be truck traffic entering or exiting the site, which would be similar to normal plant operations.

Coal blending, gypsum loadout and rail unloading facilities would increase the industrial character of the Morgantown site; however, most of the new elements will be adjacent to existing structures and difficult to distinguish from other components. Therefore, structural project elements will have a minimal effect upon the visual quality of the Morgantown site.

#### 4.3.7 *Cultural Impacts*

Drawings of proposed project components indicate the historic Lee family cemetery would not be physically disturbed by construction or operation of the coal blending, gypsum loadout or rail unloading facilities.

In the event that archeological sites or relics are found during excavation in the project area, PPRP has recommended a licensing condition requiring Mirant, in consultation with the Maryland Historical Trust (MHT), to develop and implement a plan for avoidance and protection, data recovery, or destruction without recovery of the properties adversely

affected by the project. The condition also requires Mirant to submit to MHT a copy of training programs or guidelines provided to Mirant inspectors or contractors to identify and/or protect unforeseen archeological sites that may be revealed during construction of the power plant and associated facilities.

As described previously, the historic properties near the Morgantown facility include Pasquahanza, Waverley and Lower Cedar Point. No historic property outside the boundaries of the Morgantown Generating Station would be directly affected by construction or operation of the project. Although some properties are just south of the plant, construction worker and truck traffic would enter the site from US 301. Coal blending and rail unloading facilities would not be visible from historic properties downriver from the plant. Gypsum loadout facilities might be partially visible from Pasquahanza and Lower Cedar Point, although conveyers would be set against other barge unloading structures currently under construction. Barges would be visible from both the Maryland and Virginia shorelines.

Additional commercial barge traffic on the Potomac River could marginally affect aesthetics, which is an important component of the cultural landscape of Southern Maryland and the Northern Neck of Virginia. Cultural overlays of the area include the Chesapeake Bay Gateways Network (CBGN), the Potomac Heritage National Scenic Trail, Captain John Smith Chesapeake National Historic Trail. US 301 and the Governor Harry W. Nice Memorial Bridge are considered part of the Southern Maryland Certified Heritage Area. On the Virginia side are the George Washington Birthplace National Monument, Westmoreland State Park, and Stratford Hall, birthplace of Robert E. Lee. While some of these elements overlook or utilize the surface waters of the Potomac, the minimal increase on barge traffic is not expected to affect perceptions of the area's scenic quality.

#### **4.4 NOISE IMPACTS**

The Morgantown facility is situated on a large site that provides buffer zones between the industrial activities and surrounding residents. To the north, the nearest residential area is located about three-fourths of a mile away, and to the south, more than one mile away. Distance is a significant factor in predicting noise impacts, since sound energy dissipates with increasing distance to receptors. Residences across the Potomac River in Virginia are even more distant, since the estuary is approximately 1.5

miles wide at that point, and the Naval District Washington West Area Dahlgren is located directly across the river from the Morgantown facility.

Mirant states that operation of the new equipment to be installed will not cause any significant increase in noise levels at the nearby property boundaries. For the coal blending facilities, noise from the new equipment is expected to be lower than noise generated by the existing method of coal stacking and reclaiming in the coal yard, because the new system will include more enclosed conveyors and transfer points, compared to open components in the existing system. As for the gypsum handling system at the barge dock, there will be no crushing or blending operations carried out at the barge facility. In the absence of such potentially abrasive or otherwise high-energy activities, the operation of the proposed facility is not expected to be intrusively noisy.

To confirm these predictions, Mirant will conduct noise monitoring at locations around the property boundary once the completed barge facility is in operation (including the coal blending and gypsum handling equipment that are the subjects of this current CPCN proceeding). Under the previous CPCN that Mirant received in Case 9031 for the barge facility at Morgantown, Mirant is required to conduct this monitoring to demonstrate compliance with applicable State and County noise regulations. By complying with that previous noise licensing condition from Case 9031, Mirant will also demonstrate that noise impacts from the fully realized barge facility are within acceptable regulatory limits. If the monitoring reveals exceedances of the acceptable limits, the previous CPCN requires Mirant to coordinate with Charles County to make appropriate modifications to reduce noise levels. Because the post-construction noise monitoring and subsequent mitigation (if needed) are already required under the CPCN previously granted to Mirant in Case 9031, noise monitoring conditions are not necessary for the current CPCN.

## 5.0 SUMMARY AND RECOMMENDATIONS

### 5.1 SUMMARY

#### 5.1.1 Air Quality

The proposed Coal Blending/Gypsum Loadout Project will be a source of particulate matter (PM, PM<sub>10</sub>, and PM<sub>2.5</sub>) emissions and insignificant amounts of hazardous and toxic air pollutants. Mirant will implement various fugitive dust suppression technologies to minimize PM emissions from the operations. The project will allow Mirant to handle up to 3 million tons of coal annually for use at the Morgantown Generating Station, but will not debottleneck any downstream operations or allow Mirant to burn more coal (or emit more pollutants) from the generating units at the facility.

Maximum emissions from the project are small enough that the project will not constitute a “major modification” under either the PSD (for PM) or the NA-NSR programs (for PM<sub>2.5</sub>). The project will not be subject to any NESHAPS, or federal New Source Performance Standards.

The project will be subject to MDE ARMA requirements related to PM emissions from material handling, and will need to modify its Title V operating permit to address the newly proposed coal blending/gypsum loadout facilities.

#### 5.1.2 Water Resources

The equipment proposed by Mirant to be installed for the coal blending/gypsum loadout facilities will not require a significant increase in water usage for everyday operation. The main water usage will be associated with dust control and can be accommodated under the existing ground water appropriation at the Morgantown facility. Therefore, the construction of the project using the equipment as proposed will not cause any adverse impacts on ground water quality. As no new wastewater sources are expected as part of the proposed project operations, no adverse surface water quality impacts with respect to wastewater will result.

With respect to storm water, that which is generated from the construction and operation of the project transfer and loading equipment will be

routed to and treated by the existing storm water system, which consists of collecting water in ponds on the property. As these ponds are currently in operation, the storm water impacts to surface waters in the vicinity of the facility from the overland equipment are likely negligible. The primary impacts to surface waters will be erosion and sedimentation associated with construction activities. These impacts will be controlled and minimized through proper design and placement of runoff-control features and impacts to the surface waters will be minimal.

Only limited dewatering will be required for the excavation of the reclaim tunnels and transfer tower foundations, since the excavations will be relatively shallow. Mirant will obtain a NPDES water discharge permit if dewatering exceeds 10,000 gpd on a monthly average.

### **5.1.3 *Biological Resources***

As the proposed project is confined to the footprint of an industrially developed area and does not cross any wetland areas, no adverse impacts to wetlands, vegetation, or wildlife (including threatened and endangered species) are anticipated during the construction or operation of the coal blending/gypsum loadout project facilities.

### **5.1.4 *Socioeconomic Impacts***

The proposed project constitutes modifications to Mirant's coal and gypsum storage and coal barge unloader facilities and will be contiguous to these assets. Because the project area is already zoned IH - Heavy Industrial and is in an Employment and Industrial Park District, no rezoning or change of land use will result from the project. No indirect effects on surrounding land uses are expected from the proposed modifications to the Morgantown facility.

Because of the relatively small scale and location of the project, few effects on population and housing are anticipated from construction activities.

The project will be a minor trip generator during peak construction activities when up to 90 workers would be commuting to the project site; however, the additional vehicles are not expected to affect existing traffic near the entrance to the site.

Mirant expects an average of less than one barge per week will transport gypsum, including gypsum from Chalk Point. The additional gypsum barges on the lower Potomac will therefore constitute an insignificant increase in commercial river traffic. Given the minor increase in barge

traffic from gypsum by-product operations, the facility is expected to have a minimal adverse effect upon Dahlgren's range activities.

Gypsum will be transported from Chalk Point to Morgantown via rail. The backup option would allow for transporting gypsum to Morgantown by truck. Trucking gypsum from Chalk Point to Morgantown is problematic because the most direct route traverses rural highways through Charles and St. Mary's Counties. Accordingly, PPRP has recommended a licensing condition that permits Mirant to transport gypsum by truck only in the event of an emergency and only upon notification to the Maryland State Highway Administration and only in limited quantities annually.

From a visual perspective, construction activities could create temporary visual disturbances from wind-blown dust during earth moving activities, but these events will be minimized by good construction practices. As a result, the most visible element during construction is likely to be truck traffic entering or exiting the site, which will be similar to normal plant operations. Coal blending, gypsum loadout and rail unloading facilities will increase the industrial character of the Morgantown site; however, most of the new elements will be adjacent to existing structures and difficult to distinguish from other components.

The historic properties near the Morgantown facility include Pasquahanza, Waverley and Lower Cedar Point. No historic property outside the boundaries of the Morgantown site will be directly affected by construction or operation of the project.

### **5.1.5**      *Noise Impacts*

Because of the distance to residential areas, construction of the proposed coal blending/gypsum loadout facilities is not expected to create adverse noise impacts. Further, based on available information about the project, nearby residences and other land users will not be significantly affected by adverse noise impacts resulting from operation of the project. Under the previous CPCN that Mirant received in Case 9031 for the barge facility at Morgantown, Mirant is required to conduct noise monitoring to demonstrate compliance with applicable State and County noise regulations. By complying with the noise licensing condition from Case 9031, Mirant will also demonstrate that noise impacts from the fully realized barge facility are within acceptable regulatory limits.



## 5.2

### *RECOMMENDATIONS*

If licensed with the recommended conditions in Appendix A, the State believes the Morgantown project can be constructed and operated without significant adverse impact to environmental, socioeconomic, and cultural resources.

*Appendix A  
PSC Final Order, Agency  
Signature Letter, and Stipulated  
Agreement*

January 30, 2009

In the matter of the application of \*  
Mirant Mid-Atlantic, LLC for a \*  
Certificate of Public Convenience \*  
and Necessity for authority to \*  
modify the Morgantown Generating \*  
Station in Charles County, Maryland, \*  
to install a coal blending facility \*  
and gypsum barge loading facility. \*

Case No. 9148

To All Parties of Record and Interested Persons:

The Proposed Order of Hearing Examiner filed in the above-entitled matter on January 22, 2009, was not appealed by any party, nor has the Commission modified or reversed the Proposed Order or initiated further proceedings into this matter. Accordingly, the Proposed Order became a final order of the Commission, and today it was entered on the docket of the Commission as Order No. 82423.

Very truly yours,

Kathleen Berends  
Management Associate

kab

**ORDER NO. 82423**

IN THE MATTER OF THE APPLICATION OF	*	BEFORE THE
MIRANT MID-ATLANTIC, LLC FOR A		PUBLIC SERVICE COMMISSION
CERTIFICATE OF PUBLIC CONVENIENCE	*	OF MARYLAND
AND NECESSITY FOR AUTHORITY TO		
MODIFY THE MORGANTOWN GENERATING	*	
STATION IN CHARLES COUNTY, MARYLAND,		
TO INSTALL A COAL BLENDING FACILITY	*	
AND GYPSUM BARGE LOADING FACILITY.		
	*	

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CASE NO. 9148

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**PROPOSED ORDER OF HEARING EXAMINER**

On August 1, 2008, Mirant Mid-Atlantic, LLC ("Applicant" or "Mirant") filed an application with the Public Service Commission for a Certificate of Public Convenience and Necessity ("CPCN") seeking authority to modify Mirant's Morgantown Generating Station in Charles County, Maryland to install a coal blending and a gypsum barge loading facility. The application provides a description of the facilities that are being proposed for installation. According to the application, the coal blending facility will allow the blending of different types of coal in order to meet boiler specifications and the requirements of air quality control equipment. The coal blending facility will be placed in the existing coal storage yard and consist of new stackout and reclaim facilities in the north and south coal yards. The gypsum loadout facility will be located on the perimeter of the existing storage yards within the existing plant boundaries. The gypsum loading facility will allow a more efficient transportation of the gypsum

to ensure long term use of the by-product. The combined facility modifications are referred to hereafter as "the Project."

On October 30, 2008, an evidentiary hearing was held as well as an evening hearing at the Newburg Volunteer Fire Department in Newburg (Charles County), Maryland to receive public comment on the application. Appropriate notification of the hearings was provided by publication in *The Enquirer-Gazette*, a newspaper of general circulation in Charles County.

At the evidentiary hearing, Mirant submitted in evidence the pre-filed direct testimony of Raymond J. D'Alesandro, Jr., Process Specialist, Air Quality Control Systems; and David T. Larocca, Senior Engineer, Environmental Consultant. Pre-filed direct testimony was also received from Shawn Seaman, Project Manager, and William Paul, Power Plant Research Project ("PPRP") - Department of Natural Resources ("DNR"); and Craig Taborsky, Electric Generation/Transmission Engineer, Staff of the Commission.

The testimony of Mr. D'Alesandro provided a description of the overall proposed project. According to Mr. D'Alesandro, the proposed project involves two different projects. One project builds an upgrade facility to allow blending of various mixtures of coals to provide fuel to operate Mirant's two electric generating units. The other project involves construction of a conveyor system to move the gypsum by-product produced by the emissions reduction equipment to the gypsum barge loading facility. Mr. Larocca provided testimony that reflected his analysis of the

environmental impact of the Project on air quality and ground water use. Specifically Mr. Larocca noted that the Project would increase fugitive particulate matter air emissions; however, his assessment concluded that the level of increase was considerably less than that deemed to be significant by EPA standards. Additionally, Mr. Larocca indicated that the Project would incur no increase in groundwater use or require an increase in the size of the barge pier. Overall, although the Project will result in some environmental impact, Mr. Larocca concluded that the impact would be minor.

Mr. Seaman of PPRP testified regarding the process of the government's review of Mirant's application and the action taken. Mr. Seaman's responsibilities include coordination of the application's review with various other agencies of State government as required by statute. As to the review, Mr. Seaman testified that the determination was made that the Project could be concluded without causing significant adverse environmental or socio-economic impacts. Consequently, Mr. Seaman indicated that it was the recommendation of DNR that the CPCN be granted based upon the inclusion of a number of recommended conditions to be incorporated into the Certificate. Mr. Taborsky of the Commission Staff testified as to the project's impact on the electric grid. He indicated that he had evaluated various ways the project might affect the reliability and stability of the operation of the

electric grid and had determined that the proposed project would have no impact on the grid.

The evening hearing was attended by a small number of people. Three persons offered comment. One resident of the community commented that he had no problem with the Mirant application. He characterized Mirant as being involved in the community noting that the company had recently made a substantial contribution for building a memorial museum for veterans in LaPlata. On the other hand, another person commenting expressed concern that dust from gypsum should be contained by having the conveyor totally enclosed during loading operations. Extensive comment was provided by the University of Maryland Environmental Law Clinic on behalf of the Potomac Riverkeepers, a non-profit environmental organization that works to protect and restore the Potomac River and its tributaries. The Riverkeepers expressed a broad concern that, in its view, Mirant's environmental analysis did not adequately address issues related to water quality and wetlands; and with respect to the construction activities, Mirant failed to demonstrate that it has a plan to adequately control sediment and erosion. The critique of the proposed project is that the potential exists for gypsum to be dumped, spilled, or blown into the river thus becoming a point-source discharge of gypsum; and Riverkeepers contend that Mirant's analysis has not sufficiently addressed these potential harms. In short, Riverkeepers contend that Mirant's application for a CPCN

should not be granted in advance of having addressed these environmental concerns.

In addition to its criticism of Mirant's environmental analysis, Riverkeepers also argues that DNR's analysis has not adequately addressed issues related to the project's potential environmental harm resulting from gypsum and coal dust being blown into the Potomac River. The contention is that DNR could use better weather data to evaluate the potential impact to water quality resulting from air-borne dust of gypsum and coal discharged into the water. Riverkeepers also contend that DNR's analysis does not adequately address the potential environmental harm during the project's construction phase to wetlands and Potomac River tributaries.<sup>1</sup>

#### **DISCUSSION AND CONCLUSION**

Mirant Mid-Atlantic, LLC, is required to obtain authorization from the Commission before any physical change to a generating station, see, PUC §7-207; and the Commission decision granting a CPCN must give appropriate consideration to the stability and reliability of the system, economics, aesthetics, historical sites, impact on the environment, and the need to meet

---

<sup>1</sup> The Environmental Integrity Project ("EIP") submitted written comments requesting that the Commission revisit a prior decision to authorize Mirant to burn synthetic fuel. According to EIP, since this decision, sulfur dioxide emission, resulting from burning synthetic fuel, has increased significantly. EIP admits its comments raise concerns not at issue in this case. However, the concerns are noted.



existing and future demand for electric service. The record evidence in this proceeding is substantial and sufficient to support the Mirant application. Moreover, the evidence has received a coordinated review from a number of governmental agencies. The evidence supporting this application makes clear that the proposed project will have no significant adverse environmental impact or other detrimental socio-economic consequences.

Importantly, Mirant, as well as the Power Plant Research Program of the Department of Natural Resources, the Office of People's Counsel, and the Staff of the Commission has entered into an Agreement of Stipulation and Settlement in which the parties have reached agreement as to the issuance of the Certificate. The Agreement incorporates a number of requirements and conditions that shall attach to the CPCN. See, Appendix I. These conditions and requirements have been reviewed in light of the concerns raised during public comment; and the determination is reached that these conditions and requirements will serve to assure that any adverse environmental impact is mitigated to the maximum extent possible. In addition, a regimen of regulatory review is provided within the conditions to make certain that the construction modifications and subsequent operations comply with the relevant environmental statutes and regulations.

The Agreement states that it is expressly conditioned upon the Commission's acceptance of all terms without change or condition and that it constitutes a full settlement and compromise

of Mirant's application in Case No. 9148. The parties also expressly waive their rights to appeal as provided in the Public Utilities Companies Article, Sections 3-104(d) and 3-113(d); and request that this Proposed Order become final on an expedited basis pursuant to the agreement of the parties and Section 3-113(d)(2)(ii) of the Public Utilities Companies Article.

Accordingly, based on the record in this case, I find and conclude that it is in the public interest that the CPCN should be granted. Moreover, I find the conditions recommended by DNR, OPC, and Staff, as set forth in Appendix I attached hereto, should be hereby incorporated into and made a part of the Certificate of Public Convenience and Necessity.

IT IS, THEREFORE, this 22nd day of January, in the year Two Thousand Nine,

ORDERED: (1) That the application of Mirant Mid-Atlantic, LLC, for a Certificate of Public Convenience and Necessity authorizing the modification of the Morgantown Generating Station in Charles County, Maryland is hereby granted subject to the conditions listed in Appendix I.

(2) That the period of appeal for this Proposed Order should be shortened to seven days pursuant to the Agreement of Stipulation and Settlement and Section 3-113(d)(2)(ii) of the Public Utilities Company Article.

(3) That this Proposed Order will become a final order of the Commission on January 30, 2009, unless before

that date an appeal is noted with the Commission by any party to this proceeding as provided in Section 3-113(d)(2) of the Public Utility Companies Article, or the Commission modifies or reverses the Proposed Order or initiates further proceedings in this matter as provided in Section 3-114(c)(2) of the Public Utility Companies Article.

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David L. Moore  
Hearing Examiner  
Public Service Commission of Maryland



STATE OF MARYLAND

October 24, 2008

The Honorable Douglas R.M. Nazarian  
Chairman  
Public Service Commission  
6 St. Paul Center  
Baltimore, Maryland 21202

Re: Case No. 9148

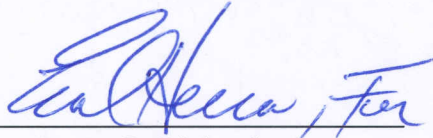
Dear Chairman Nazarian:

In accordance with Section 3-306(b) of the Natural Resources Article and the process described in Section 7-207 and 7-208 of the Public Utility Companies Article, we are enclosing our preliminary recommendation in Case Number 9148 on behalf of the Departments of Natural Resources, Environment, Agriculture, Transportation, Business and Economic Development, and the Maryland Office of Planning and the Maryland Energy Administration. Our recommendation and proposed conditions relate to the application for a Certificate of Public Convenience and Necessity (CPCN) for Mirant Mid-Atlantic LLC to install and operate Coal Blending/Gypsum Loadout facilities at the Morgantown Generating Station in Charles County, Maryland.

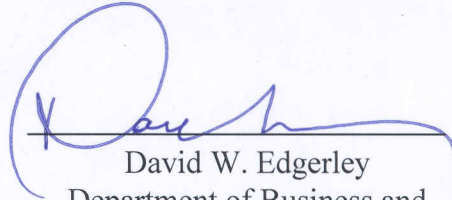
As set forth more fully in Mirant's application, the modification is part of Mirant's overall plan to comply with the Maryland Healthy Air Act and other pollution control requirements. There will be no adverse impacts associated with the modification at Morgantown to surface water or ground water resources. No impacts are anticipated to threatened and endangered species, or to socioeconomic, aesthetic, or cultural resources because there will be no changes to the land use characteristics of the local area associated with the proposed project. The project will meet all applicable State and federal air quality requirements.

Based on our review of the application and associated environmental information available to date, we have concluded that the site is suitable and that the plant can be modified and operated in accordance with all applicable environmental regulations provided the Certificate incorporates the attached recommendations as conditions to the CPCN. Our preliminary evaluation of the environmental impacts associated with the proposed facility is summarized in the document titled "Environmental Review of the Morgantown Coal Blending/Gypsum Loadout Project" which has been supplied as an exhibit in this proceeding. At the conclusion of the hearing process and close of the record these conditions will be final. Should these recommendations need to be modified, we will provide our final recommendation and conditions for the project.

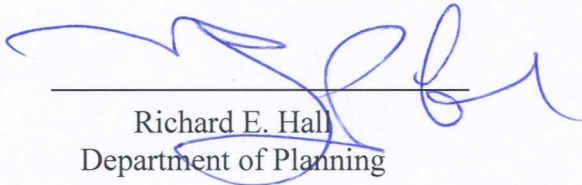
Sincerely,



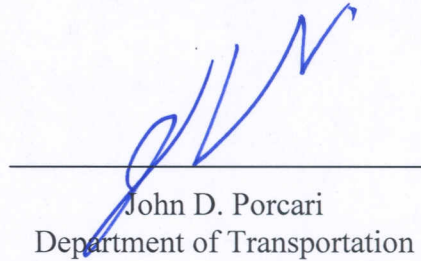
Roger L. Richardson  
Department of Agriculture



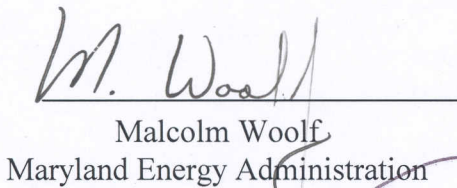
David W. Edgerley  
Department of Business and  
Economic Development



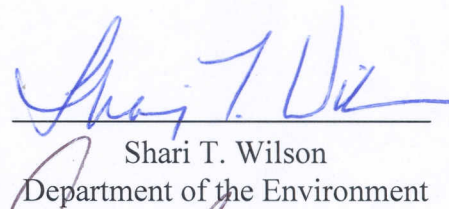
Richard E. Hall  
Department of Planning



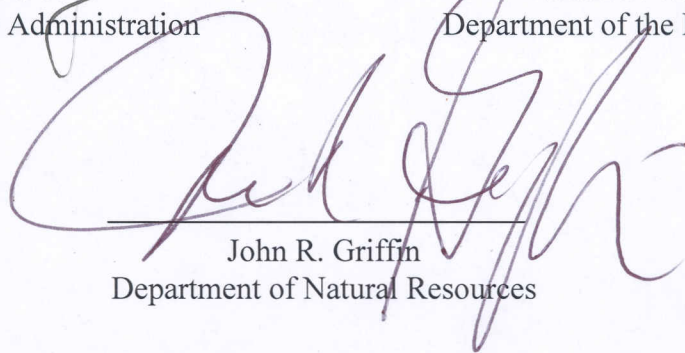
John D. Porcari  
Department of Transportation



Malcolm Woolf  
Maryland Energy Administration



Shari T. Wilson  
Department of the Environment



John R. Griffin  
Department of Natural Resources

## **Initial Recommended CPCN Licensing Conditions**

**Case No. 9148**

**Mirant Mid-Atlantic, LLC**

**Morgantown Generating Station Coal Blending/Gypsum Loadout Project**

### **General**

1. Except as otherwise provided for in the following provisions, the application for the Certificate of Public Convenience and Necessity (CPCN) is considered to be part of this CPCN for the Morgantown Coal Blending/Gypsum Loadout Project. The application consists of the original application received by the Maryland Public Service Commission (PSC) on August 1, 2008. Construction of the project shall be undertaken in accordance with the CPCN application. If there are any inconsistencies between the conditions specified below and the application, the conditions in this CPCN shall take precedence. In the application, estimates of dimensions, volumes, emission rates, operating rates, feed rates and hours of operation are not deemed to constitute enforceable numeric limits except to the extent that they are necessary to make a determination of compliance with applicable regulations. If CPCN conditions incorporate federal or State laws or regulations through paraphrased language, where there is any inconsistency between the paraphrased language and the actual State or federal laws or regulation being paraphrased, the applicable federal or State laws or regulations shall take precedence.
2. If any provision of this CPCN shall be held invalid for any reason, the remaining provisions shall remain in full force and effect and such invalid provision shall be considered severed and deleted from this CPCN.

### **Air Quality**

#### **I. General Air Quality Requirements**

3. The Maryland Department of the Environment (MDE) Air and Radiation Management Administration (ARMA) shall have concurrent jurisdiction with the PSC to enforce the air quality conditions of this CPCN.
4. The application for a CPCN includes the application for air quality construction permits. The CPCN serves as the air quality construction permit.
5. For air permitting purposes, the Morgantown Coal Blending/Gypsum Loudout Project shall include: new coal handling transfer points associated with installation of a new coal stack-out system for the existing south coal yard; a new underground reclaim system associated with both the existing north and south coal yards; new reclaim transfer points to integrate the coal reclaim from the south and north coal yards; refurbishing/upgrades for existing emergency coal reclaim system; a new

gypsum material handling system to include five new enclosed transfer towers, one pier-located conveyor system, telescoping barge load-out conveyor; and a new gypsum rail unloading facility to include a new rail unloading hopper and conveyors to support the transport of gypsum from the Chalk Point power plant.

6. Definitions:

- a) "Commence" as applied to the construction of the Morgantown Coal Blending/Gypsum Loadout Project means that the owner or operator either has:
- i) Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time; or
  - ii) Has entered into binding agreements or contractual obligations which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a continuous program of actual construction or modification of the source to be completed within a reasonable time.

7. Representatives of MDE and the Charles County Health Department shall be afforded access to the Morgantown facility at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the CPCN requirements. Mirant shall provide such assistance as reasonably may be necessary to conduct such inspections and evaluations by such representatives of MDE effectively and safely, which may include but need not be limited to the following:

- a) Inspecting construction authorized under this CPCN;
- b) Sampling any materials stored or processed on site, or any waste, or discharge into the environment;
- c) Inspecting any monitoring or recording equipment required by this CPCN or applicable regulations;
- d) Having access to or copying any records required to be kept by Mirant pursuant to this CPCN or applicable regulations;
- e) Obtaining any photographic documentation and evidence; and
- f) Determining compliance with the conditions and regulations specified in the CPCN.

8. This CPCN constitutes the air quality construction permit for the Morgantown Coal Blending/Gypsum Loadout Project. In accordance with COMAR 26.11.02.04B, the air quality provisions expire if, as determined by MDE-ARMA:

- a) Construction is not commenced within 18 months after the date of issuance of a final CPCN;
  - b) Construction is substantially discontinued for a period of 18 months or more after it has commenced; or
  - c) Construction is not completed within a reasonable period of time after the issuance of a final CPCN.
9. All requirements pertaining to air quality that apply to Mirant shall apply to all subsequent owners and/or operators of the facility. In the event of any change in control or ownership, Mirant shall notify the succeeding owner/operator of the existence of the requirements of this CPCN pertaining to air quality by letter and shall send a copy of that letter to MDE-ARMA.

## **II. Applicable Air Quality Regulations**

10. The Morgantown facility is subject to all applicable federally enforceable State air quality requirements including, but not limited to, the following:
- a) COMAR 26.11.06.03D Particulate Matter From Materials Handling and Construction – Prohibits Mirant from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For activities associated with Mirant’s Coal Blending/Gypsum Loadout Project, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer:
    - i) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
    - ii) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts;
    - iii) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials; and
    - iv) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution.
11. The Mirant Coal Blending/Gypsum Loadout Project is subject to all applicable State-only enforceable air quality requirements including, but not limited to, the following regulations:



- a) COMAR 26.11.06.08 Nuisance – Prohibits Mirant from operating or maintaining a source in such a manner that a nuisance is created.
- b) COMAR 26.11.06.09 Odors – Prohibits Mirant from causing or permitting the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.

**III. Additional Requirements**

- 12. Mirant shall install, maintain, and operate the Coal Blending/Gypsum Loadout Project systems and equipment and associated particulate matter controls in accordance with original design criteria, vendor recommendations, and best management practices, and in such a manner as to ensure full and continuous compliance with all applicable regulations.
- 13. At least 30 days prior to initial startup date of the Coal Blending/Gypsum Loadout Project, Mirant shall update Morgantown’s Best Management Practices (BMP) Plan, as required by the facility’s Part 70 Operating Permit (Permit No. 24-017-00014), to include the equipment and material handling processes associated with the Project. The Plan shall document what reasonable precautions will be used to prevent particulate matter from project equipment and material handling processes from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, Mirant shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. MDE-ARMA shall approve the BMP Plan prior to implementation.
- 14. Mirant shall keep written records of inspections, testing and monitoring results, and maintenance performed on Project emissions sources for the purposes of minimizing particulate matter emissions and demonstrating that coal blending/gypsum loadout operations are meeting the approved BMP Plan. Records shall include descriptions of the result of any inspection and maintenance.
- 15. Mirant shall furnish written notification to MDE-ARMA of the following events associated with the Coal Blending/Gypsum Loadout Project:
  - a) Date construction is commenced postmarked no later than 30 days after such date;
  - b) Anticipated startup date, not more than 60 or less than 30 days prior to such date;
  - c) Actual date of initial startup postmarked within 15 days after such date; and

- d) Notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies postmarked 60 days or as soon as practicable before the change is commenced.
16. All records and logs required by this CPCN shall be maintained at the facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of MDE-ARMA.
17. All air quality notifications and reports required by this CPCN shall be submitted to:
- Administrator, Compliance Program  
Air and Radiation Management Administration  
1800 Washington Boulevard  
Baltimore, Maryland 21230

**NPDES permit (if applicable)**

18. The CPCN is not an authorization to discharge wastewater to waters of the State.

**Water Appropriation (if applicable)**

19. Mirant shall report any anticipated change in appropriation, which may result in a new or different withdrawal, quantity, source, or method of use of water, to MDE Water Management Administration (WMA) by submission of a modified or amended MDE WMA permit application.

**Stormwater Management**

20. As directed by the MDE WMA, Mirant shall revise its Storm Water Pollution Prevention Plan, incorporating best management practices to prevent runoff of contaminated storm water from the proposed facility whenever there is a change in design, construction operation, material inventory or handling, or maintenance which may have a significant effect on pollution discharge potential or when the plan proves to be ineffective.

**Construction Dewatering**

21. Mirant shall obtain a permit from MDE WMA for temporary dewatering during construction if the dewatering exceeds 10,000 gallons per day or 30 calendar days, including intermittent periods of non-pumping. The permit application for temporary dewatering during construction must be submitted to MDE six months in advance of the initiation of dewatering.

**Terrestrial and Aquatic Ecology**

22. Construction and operation of the coal blending and gypsum loadout facilities shall be undertaken in accordance with this CPCN and shall comply with all applicable local, State, and federal regulations, including but not limited to the following:

- a) Tidal Wetlands—COMAR 26.24 applies to activities conducted in tidal wetlands. Joint Permits for activities in tidal wetlands are made to the U.S. Army Corps of Engineers and the Maryland Department of the Environment;
  - b) Nontidal Wetlands - COMAR 26.23 applies to activities conducted in nontidal wetlands;
  - c) Waterway Construction—COMAR 26.17.04 applies to activities in State waterways;
  - d) Water Quality and Water Pollution Control - COMAR 26.09.01 through COMAR 26.08.04 applies to discharges to surface water and maintenance of surface water quality; and
  - e) Erosion and Sediment Control - COMAR 26.09.01 applies to the preparation, submittal, review, approval, and enforcement of erosion and sediment control plans.
23. Construction and operation of the Coal Blending/Gypsum Loadout Project shall be undertaken in accordance with this CPCN and shall comply with all local, State, and federal regulations, including but not limited to the following:
- a) Construction and operation of the Coal Blending/Gypsum Loadout Project shall not take place in wetland areas;
  - b) Construction and operation of the Coal Blending/Gypsum Loadout Project shall not impact threatened and endangered species on the Morgantown Generating Station property, or in the vicinity of the Morgantown Generating Station;
  - c) Dredging of the Potomac River shall not occur for the construction and operation of the Coal Blending/Gypsum Loadout Project at Morgantown Generating Station;
  - d) All possible methods to decrease the amount of gypsum from entering the Potomac River shall be applied, including but not limited to complete enclosure of the conveyor belt over the Potomac River; and
  - e) The Joint Federal/State Application for the Alteration of Any Floodplain, Waterway, Tidal or Nontidal Wetland in Maryland Application for a permit to construct the Coal Blending/Gypsum Loadout Project for MDE (tracking permit #200560545/05-WL-0618) shall be completed and approved prior to construction.

### **Land Use**

24. Prior to construction, after final construction plans are drawn, Mirant shall consult with Charles County and PPRP to confirm that the Morgantown Generating Station will be in compliance with the 1996 Memorandum of Understanding presented to Charles County by the Potomac Electric Power Company to reduce storm water pollutant loads from the construction of additional impervious surfaces in the Critical Area.

### **Cultural Resources**

25. Prior to construction, Mirant shall submit to the Maryland Historical Trust (MHT) a copy of training programs, or guidelines provided to Applicant inspectors or contractors, to identify and/or protect unforeseen archeological sites that may be revealed during construction of the project. If such relics are identified in the project area, Mirant, in consultation with and as approved by MHT, shall develop and implement a plan for avoidance and protection, data recovery, or destruction without recovery of the properties adversely affected by the project.
26. Prior to construction, Mirant will consult with the MHT to identify historic properties that will potentially be impacted by the project and characterize the potential effect. If the MHT makes a determination of adverse effect on one or more historic properties, Mirant shall develop an impact mitigation plan that will be implemented upon approval by the MHT.

### **Emergency Preparedness and Security**

27. Mirant shall provide to PPRP and the PSC copies of its security procedures, in particular those procedures addressing site and plant safety and security during construction and operation of the power plant. The procedures should address issues such as how Mirant plans to control vehicle and construction worker access and protect any vulnerable assets from being threatened from outside the perimeter of the property. The procedures should also identify how local, state, and federal agencies would be coordinated in the event of a large-scale emergency. Security procedures should consider the effects of any proposed measures on the surrounding community and mitigate adverse effects to the maximum extent possible.

### **Visual Quality**

28. Mirant shall develop a lighting distribution plan that will mitigate intrusive night lighting and avoid undue glare onto adjoining properties. Mirant shall coordinate development of the plan with PPRP and the Charles County Division of Planning. Mirant shall submit the plan to PPRP and the PSC for review and approval prior to operation of the facility.

## Traffic

29. Except in an emergency condition, including but not limited to, stoppage of rail deliveries for any reason to the Morgantown Generating Station, by acts of God, labor disputes, strikes, embargoes, shortage of supplies, fires, explosions, floods, insurrection, riots, breakdowns of or damage to plants, mines, equipment or facilities, by acts of the public enemy, Mirant shall not truck gypsum by-product to its Morgantown Generating Station from Chalk Point. In the event an emergency exists, Mirant shall notify in writing the Public Service Commission, engineering staff and the Maryland SHA regarding the institution of truck activity. Mirant shall contact SHA's Motor Carrier Division 410-582-4564 or SHA's District 5 offices at 410-841-1000 or 410-841-5450, 72 hours prior to commencing the trucking of gypsum by-product to the Morgantown Generating Station. Mirant shall consult with the Maryland SHA and the Charles County Department of Public Facilities to identify truck routes and operating procedures that minimize the impact of truck traffic on the public. The trucking of gypsum by-product to the Morgantown Generating Station shall cease when the emergency conditions no longer exist.

Within 90 days of the Final Order, Mirant shall submit a report to the PSC and SHA that identifies, after consultation with the SHA and Charles County, a specific route to be followed by all trucks used in emergency hauling operations and determines whether entrance modifications will be necessary to accommodate the truck usage during an emergency condition. If entrance modifications are determined to be necessary, Mirant shall obtain an access permit based upon plans prepared by Mirant's engineer for review and approval by SHA. The entrance construction modifications must be completed prior to emergency truck hauling operations. In the event that hauling operations must occur prior to the completion of entrance modifications, Mirant shall be required to complete routine roadway repairs as directed by SHA and complete entrance restoration and modifications as directed by SHA. Mirant shall repair roadway failures at entrance locations to and from state roadways resulting from the emergency trucking operations for a distance of up to one mile of the plant access points along the State roadways.

In the event Mirant elects to transport gypsum by-product by truck to the Morgantown Generating Station from Chalk Point for any reason other than an emergency event, Mirant shall seek modification of this CPCN. Under no circumstances shall Mirant truck more than 60,000 tons per year of gypsum from Chalk Point to Morgantown.

30. Consistent with Case 9085, the number of truckloads hauling materials, including by-products, from the Morgantown plant shall not exceed 200 loads per day.

**Miscellaneous**

31. Informational notifications and reports required in Conditions 9, 15, 19, 23e, 25, and 29 shall be sent to the Power Plant Research Program at:

Power Plant Assessment Division  
Department of Natural Resources  
Tawes State Office Building, B-3  
580 Taylor Avenue  
Annapolis, Maryland 21401

BEFORE THE PUBLIC SERVICE COMMISSION OF MARYLAND

IN THE MATTER OF MIRANT )  
MID-ATLANTIC, LLC'S APPLICATION )  
FOR A CERTIFICATE OF PUBLIC )  
CONVENIENCE AND NECESSITY ) CASE NO. 9148  
AUTHORIZING THE MODIFICATION OF THE )  
MORGANTOWN GENERATING STATION IN )  
CHARLES COUNTY, MARYLAND )

**AGREEMENT OF  
STIPULATION AND SETTLEMENT**

Mirant Mid-Atlantic, LLC ("Mirant Mid-Atlantic"), the Power Plant Research Program ("PPRP") of the Department of Natural Resources ("DNR"), acting on behalf of a number of interested State agencies, and the Staff of the Public Service Commission of Maryland ("Staff") (collectively, the "Settling Parties"), by their undersigned counsel, agree as follows:

**BACKGROUND**

On August 1, 2008, Mirant Mid-Atlantic filed with the Public Service Commission of Maryland (the "Commission"), pursuant to Section 7-205 of the Public Utility Companies Article, an Application for a Certificate of Public Convenience and Necessity ("CPCN") for Authority to Modify the Morgantown Generating Station ("Morgantown" or "the Plant") in Charles County, Maryland (the "Application"). Specifically, Mirant Mid-Atlantic sought permission to modify Morgantown by installing a coal blending facility and gypsum barge loading facility and associated equipment (collectively, the "Projects"). The Projects will (1) allow the two Morgantown coal fired steam units to maintain combustion efficiency and fuel flexibility and will assist Mirant Mid-Atlantic's compliance with Maryland's Healthy Air Act ("HAA") (Chapter 23, 2006 Md. Laws) (Senate Bill 154/House Bill 189) and enabling regulations at COMAR 26.11.27 (Emissions Limitations for Power Plants) and (2) allow for the beneficial reuse of the gypsum byproduct produced by both the Morgantown and Chalk Point

SO<sub>2</sub> Flue Gas Desulphurization (FGD) Systems. The recycling of the gypsum byproduct minimizes the environmental impacts of this byproduct and satisfies the requirement contained in the CPCNs issued for the Morgantown and Chalk Point SO<sub>2</sub> FGD Systems (MD PSC Case # 9085 and 9086) to recycle the gypsum byproduct.

The Application includes a description and environmental assessment of the Project. The matter was docketed as Case No. 9148, delegated to the Hearing Examiner Division, and assigned to Hearing Examiner David L. Moore. On August 29, 2008, Mirant Mid-Atlantic filed the testimony of David Larocca, Kennard F. Kosky and Raymond J. D'Alesandro, Jr. in support of its Application.

PPRP, acting in concert with the Maryland Department of the Environment (“MDE”) and other interested State agencies, conducted an environmental review of the impacts of the proposed Project and developed a set of initial conditions recommended to ensure the construction and operation of the proposed modification will meet or exceed the requirements of applicable environmental statutes and regulations and pose no undue detrimental impacts on the surrounding community. On October 24, 2008, PPRP, acting on behalf of the State agencies, filed with the Commission an Environmental Review of the Project, its supporting testimony, and a draft of initial recommended conditions. Also on October 24, 2008, a letter on behalf of DNR, MDE, and other State agencies was filed indicating those agencies’ view that the “project will meet all applicable State and federal air quality requirements” and that the “site is suitable and that the plant can be modified and operated in accordance with all applicable environmental regulations provided the Certificate incorporates the attached recommendations as conditions to the CPCN.” Staff filed testimony on October 24, 2008 as well, recommending that the CPCN be granted with the conditions proposed by the State agencies. On November 14, 2008, pursuant to



Maryland Code, Section 3-306 of the Natural Resources Article, PPRP filed the final recommended licensing conditions on behalf of the reviewing State agencies within 15 days of the close of the record in this case. The final recommended conditions included changes to the initial recommendations resulting from further agency review and discussions with the Applicant. Subsequent to the filing of the final recommended conditions, the Applicant approached PPRP and suggested one additional change to Condition 28 in order to clarify that PPRP/PSC access to emergency preparedness and security information is “subject to federal laws regarding dissemination of such information.” PPRP interprets Condition 28, as written in the final recommended conditions filed on November 14, 2008, to be subject to applicable federal law. However, PPRP does not object to the Applicant’s requested additional language to clarify Condition 28. Other than the clarifying change to recommended Condition 28, the proposed conditions attached to this settlement agreement (“Final Settlement Conditions”) are identical to the final recommended conditions filed on behalf of the State agencies on November 14, 2008.

The Settling Parties have engaged in settlement negotiations to determine the final settlement conditions. As a result of these settlement negotiations, the Settling Parties agreed to enter into this “Agreement of Stipulation and Settlement” (“Agreement”) and to incorporate the final settlement conditions (“Final Settlement Conditions,” attached hereto as “Exhibit A”) into the CPCN. The Final Settlement Conditions include the final recommendations of PPRP and Staff, and the Applicant’s requested change to Condition 28, described above. Mirant Mid-Atlantic agrees to accept the Final Settlement Conditions if adopted in the form attached and the Settling Parties agree not to seek further Commission review of those Final Settlement Conditions in these proceedings. All of the Settling Parties are in agreement that the issuance of a CPCN for the Project, subject to the Final Settlement Conditions, will be in the public interest.

The Settling Parties are also in agreement that the period for appealing from a proposed order approving this Agreement and recommending a CPCN incorporating the Final Settlement Conditions should be shortened to 7 days.

### **AGREEMENT**

**NOW, THEREFORE,** the Settling Parties do hereby stipulate and agree as follows:

1. The Settling Parties recommend that the Commission issue a CPCN for the Project, subject to the Final Settlement Conditions set forth in Appendix A. The Settling Parties stipulate and agree that the issuance of a CPCN that incorporates the Final Settlement Conditions will be in the public interest and will serve the public convenience and necessity. In making this recommendation, the Settling Parties have taken into account each and all of the factors and considerations listed in Section 7-207(e) of the Public Utility Companies Article of the Maryland Code and the information contained in PPRP's Environmental Review and supporting testimony.

2. The Settling Parties stipulate and agree that the construction and operation of the Project in accordance with the Final Settlement Conditions would meet or exceed the requirements of all currently applicable environmental laws and regulations, including those relating to noise abatement and the control of air and water pollution.

3. The Settling Parties agree not to seek further review by the Commission if the Final Settlement Conditions are adopted as the conditions to the CPCN and waive any otherwise applicable appeal rights.

4. The Settling Parties recognize and agree that the provisions of the Final Settlement Conditions are interrelated and that those provisions, taken as a whole, constitute a comprehensive scheme for the mitigation of any adverse environmental effects and other adverse impacts that might otherwise result from the construction or operation of the Project. The

provisions of the Final Settlement Conditions are interdependent, in that a change or addition made to address a concern in one aspect (*e.g.*, air pollution) could well have an unanticipated adverse effect or other unintended consequence with respect to another aspect (*e.g.*, water usage or pollution). The Settling Parties accordingly agree, and enter into this Agreement with the understanding that the Final Settlement Conditions should be accepted by the Commission without further change, addition, or other alteration of any kind.

5. The Settling Parties view the Final Settlement Conditions and this Agreement as a package, with all of the parts interrelating to each other. If the Final Settlement Conditions are changed, supplemented, or rejected by the Commission, this Agreement shall be deemed withdrawn and shall not constitute any part of the record in this proceeding or be used for any other purpose whatsoever. In the event the Commission determines not to accept and approve the Final Settlement Conditions and this Agreement in their entirety, the Settling Parties respectfully request that the Commission provide the Settling Parties an opportunity (i) to negotiate a modified Agreement to address the Commission's concerns or a contested settlement agreement representing the terms of settlement that remain acceptable to some of the Parties, or (ii) to withdraw their support for this Agreement, to prepare and file briefs, and to proceed with further litigation of these issues.

6. This Agreement represents a compromise for the purposes of settlement and shall not be regarded as a precedent with respect to any future case. No Settling Party necessarily agrees or disagrees with the treatment of any particular item, any procedure followed, or the resolution of any particular issue in agreeing to this Agreement other than as specified herein, except that the Settling Parties agree that the resolution of the issues herein, taken as a whole, is in the public interest.

7. No Settling Party shall be deemed to have approved, accepted, agreed, or consented to any principle underlying or supposed to underlie any of the matters provided for in this Agreement, nor shall approval of this Settlement constitute in any respect a determination by the Commission as to the merits of any of the contentions or allegations which might be made by any of the Parties in the absence of settlement.

8. The discussions that produced this Agreement have been conducted on the understanding that all offers of settlement and discussions relating thereto are and shall be confidential, shall be without prejudice to the position of any party or participant presenting any such offer or participating in any such discussions, and are not to be used in any manner in connection with this proceeding or otherwise.

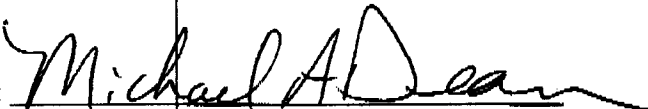
9. This Agreement may be executed in any number of identical counterparts, each of which when executed and delivered shall be an original, but all such counterparts shall constitute but one and the same instrument. Delivery by any party or its respective representatives of telecopied (counterpart) signature pages shall be as binding an execution and delivery of this Agreement by such party as if the other parties had received the actual physical copy of the entire Agreement with an ink signature from such party.

10. The Settling Parties agree that the period for appealing from a proposed order approving this Agreement and recommending a CPCN incorporating the Final Settlement Conditions should be shortened to 7 days pursuant to Section 3-113(d)(2) of the Public Utility Companies Article of the Maryland Code.

**WHEREFORE**, the Settling Parties have caused their signatures to be affixed to this Agreement through and by their respective counsel.

Respectfully submitted,

STAFF OF MARYLAND PUBLIC SERVICE COMMISSION

By: 

Michael A. Dean  
Assistant Staff Counsel

MIRANT MID-ATLANTIC, LLC

By: \_\_\_\_\_

F. William DuBois  
DLA Piper LLP US

MARYLAND DEPARTMENT OF NATURAL RESOURCES  
POWER PLANT RESEARCH PROGRAM

By: \_\_\_\_\_

Brent A. Bolea  
Assistant Attorney General


**WHEREFORE**, the Settling Parties have caused their signatures to be affixed to this Agreement through and by their respective counsel.

Respectfully submitted,

STAFF OF MARYLAND PUBLIC SERVICE COMMISSION

By: \_\_\_\_\_  
Michael A. Dean  
Assistant Staff Counsel

MIRANT MID-ATLANTIC, LLC

By:  \_\_\_\_\_  
F. William DuBois  
DLA Piper LLP US

MARYLAND DEPARTMENT OF NATURAL RESOURCES  
POWER PLANT RESEARCH PROGRAM

By: \_\_\_\_\_  
Brent A. Bolea  
Assistant Attorney General

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By: \_\_\_\_\_  
Michael A. Dean  
Assistant Staff Counsel

MIRANT MID-ATLANTIC, LLC

By: \_\_\_\_\_  
F. William DuBois  
DLA Piper LLP US

MARYLAND DEPARTMENT OF NATURAL RESOURCES  
POWER PLANT RESEARCH PROGRAM

By:  \_\_\_\_\_  
Brent A. Bolea  
Assistant Attorney General

## **Recommended CPCN Licensing Conditions**

**Case No. 9148**

**Mirant Mid-Atlantic, LLC**

**Morgantown Generating Station Coal Blending/Gypsum Loadout Project**

### **General**

1. Except as otherwise provided for in the following provisions, the application for the Certificate of Public Convenience and Necessity (CPCN) is considered to be part of this CPCN for the Morgantown Coal Blending/Gypsum Loadout Project. The application consists of the original application received by the Maryland Public Service Commission (PSC) on August 1, 2008. Construction of the project shall be undertaken in accordance with the CPCN application. If there are any inconsistencies between the conditions specified below and the application, the conditions in this CPCN shall take precedence. In the application, estimates of dimensions, volumes, emission rates, operating rates, feed rates and hours of operation are not deemed to constitute enforceable numeric limits except to the extent that they are necessary to make a determination of compliance with applicable regulations. If CPCN conditions incorporate federal or State laws or regulations through paraphrased language, where there is any inconsistency between the paraphrased language and the actual State or federal laws or regulation being paraphrased, the applicable federal or State laws or regulations shall take precedence.
2. If any provision of this CPCN shall be held invalid for any reason, the remaining provisions shall remain in full force and effect and such invalid provision shall be considered severed and deleted from this CPCN.
3. Representatives of the Maryland PSC shall be afforded access to the Morgantown facility at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the CPCN. Mirant shall provide such assistance as may be necessary to conduct such inspections and evaluations by representatives of the PSC effectively and safely.

### **Air Quality**

#### **I. General Air Quality Requirements**

4. The Maryland Department of the Environment (MDE) Air and Radiation Management Administration (ARMA) shall have concurrent jurisdiction with the PSC to enforce the air quality conditions of this CPCN.
5. The application for a CPCN includes the application for air quality construction permits. The CPCN serves as the air quality construction permit.
6. For air permitting purposes, the Morgantown Coal Blending/Gypsum Loudout Project shall include: new coal handling transfer points associated with installation





of a new coal stack-out system for the existing south coal yard; a new underground reclaim system associated with both the existing north and south coal yards; new reclaim transfer points to integrate the coal reclaim from the south and north coal yards; refurbishing/upgrades for existing emergency coal reclaim system; a new gypsum material handling system to include five new enclosed transfer towers, one pier-located conveyor system, telescoping barge load-out conveyor; and a new gypsum rail unloading facility to include a new rail unloading hopper and conveyors to support the transport of gypsum from the Chalk Point power plant.

7. Definitions: "Commence" as applied to the construction of the Morgantown Coal Blending/Gypsum Loadout Project means that the owner or operator has begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time.
8. Representatives of MDE and the Charles County Health Department shall be afforded access to the Morgantown facility at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the CPCN requirements. Mirant shall provide such assistance as reasonably may be necessary to conduct such inspections and evaluations by such representatives of MDE effectively and safely, which may include but need not be limited to the following:
  - a) Inspecting construction authorized under this CPCN;
  - b) Sampling any materials stored or processed on site, or any waste, or discharge into the environment;
  - c) Inspecting any monitoring or recording equipment required by this CPCN or applicable regulations;
  - d) Having access to or copying any records required to be kept by Mirant pursuant to this CPCN or applicable regulations;
  - e) Obtaining any photographic documentation and evidence; and
  - f) Determining compliance with the conditions and regulations specified in the CPCN.
9. In accordance with COMAR 26.11.02.04B, the air quality provisions expire if, as determined by MDE-ARMA:
  - a) Construction is not commenced within 18 months after the date of issuance of a final CPCN;
  - b) Construction is substantially discontinued for a period of 18 months or more after it has commenced; or

- c) Construction is not completed within a reasonable period of time after the issuance of a final CPCN.
10. All requirements pertaining to air quality that apply to Mirant shall apply to all subsequent owners and/or operators of the facility. In the event of any change in control or ownership, Mirant shall notify the succeeding owner/operator of the existence of the requirements of this CPCN pertaining to air quality by letter and shall send a copy of that letter to the PSC and MDE-ARMA.

## **II. Applicable Air Quality Regulations**

11. The Morgantown facility is subject to all applicable federally enforceable State air quality requirements including, but not limited to, the following:
- a) COMAR 26.11.06.03D Particulate Matter From Materials Handling and Construction— Prohibits Mirant from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For activities associated with Mirant's Coal Blending/Gypsum Loadout Project, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer:
    - i) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
    - ii) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts;
    - iii) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials; and
    - iv) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution.
12. The Mirant Coal Blending/Gypsum Loadout Project is subject to all applicable State-only enforceable air quality requirements including, but not limited to, the following regulations:
- a) COMAR 26.11.06.08 Nuisance— Prohibits Mirant from operating or maintaining a source in such a manner that a nuisance is created;
  - b) COMAR 26.11.06.09 Odors— Prohibits Mirant from causing or permitting the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.

### **III. Additional Requirements**

13. Mirant shall install, maintain, and operate the Coal Blending/Gypsum Loadout Project systems and equipment and associated particulate matter controls in accordance with original design criteria, vendor recommendations, and best management practices, and in such a manner as to ensure full and continuous compliance with all applicable regulations.
14. At least 30 days prior to initial startup date of the Coal Blending/Gypsum Loadout Project, Mirant shall update Morgantown's Best Management Practices (BMP) Plan, as required by the facility's Part 70 Operating Permit (Permit No. 24-017-00014), to include the equipment and material handling processes associated with the Project. The Plan shall document what reasonable precautions will be used to prevent particulate matter from project equipment and material handling processes from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, Mirant shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. MDE-ARMA shall approve the BMP Plan prior to implementation.
15. Mirant shall keep written records of inspections, testing and monitoring results, and maintenance performed on Project emissions sources for the purposes of minimizing particulate matter emissions and demonstrating that coal blending/gypsum loadout operations are meeting the approved BMP Plan. Records shall include descriptions of the result of any inspection and maintenance.
16. Mirant shall furnish written notification to MDE-ARMA of the following events associated with the Coal Blending/Gypsum Loadout Project:
  - a) Date construction is commenced postmarked no later than 30 days after such date;
  - b) Anticipated startup date, not more than 60 or less than 30 days prior to such date;
  - c) Actual date of initial startup postmarked within 15 days after such date; and
  - d) Notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies postmarked 60 days or as soon as practicable before the change is commenced.
17. All records and logs required by this CPCN shall be maintained at the facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of MDE-ARMA.

18. All air quality notifications and reports required by this CPCN shall be submitted to:

Administrator, Compliance Program  
Air and Radiation Management Administration  
1800 Washington Boulevard  
Baltimore, Maryland 21230

**NPDES permit (if applicable)**

19. The CPCN is not an authorization to discharge wastewater to waters of the State.

**Water Appropriation (if applicable)**

20. Mirant shall report any anticipated change in appropriation, which may result in a new or different withdrawal, quantity, source, or method of use of water, to MDE Water Management Administration (WMA) by submission of a modified or amended MDE WMA permit application.

**Stormwater Management**

21. As directed by the MDE WMA, Mirant shall revise its Storm Water Pollution Prevention Plan, incorporating best management practices to prevent runoff of contaminated storm water from the proposed facility whenever there is a change in design, construction operation, material inventory or handling, or maintenance which may have a significant effect on pollution discharge potential or when the plan proves to be ineffective.

**Construction Dewatering**

22. Mirant shall obtain a permit from MDE WMA for temporary dewatering during construction if the dewatering exceeds 10,000 gallons per day or 30 calendar days, including intermittent periods of non-pumping.

**Terrestrial and Aquatic Ecology**

23. Construction and operation of the coal blending and gypsum loadout facilities shall be undertaken in accordance with this CPCN and shall comply with all applicable local, State, and federal regulations, including but not limited to the following:
- a) Tidal Wetlands—COMAR 26.24 applies to activities conducted in tidal wetlands. Joint Permits for activities in tidal wetlands are made to the U.S. Army Corps of Engineers and the Maryland Department of the Environment;
  - b) Nontidal Wetlands - COMAR 26.23 applies to activities conducted in nontidal wetlands;
  - c) Waterway Construction—COMAR 26.17.04 applies to activities in State waterways;
  - d) Water Quality and Water Pollution Control - COMAR 26.09.01 through COMAR 26.08.04 applies to discharges to surface water and maintenance of surface water

quality; and

- e) Erosion and Sediment Control – COMAR 26.09.01 applies to the preparation, submittal, review, approval, and enforcement of erosion and sediment control plans.
24. Construction and operation of the Coal Blending/Gypsum Loadout Project shall be undertaken in accordance with this CPCN and shall comply with all local, State, and federal regulations, including but not limited to the following:
- a) Construction and operation of the Coal Blending/Gypsum Loadout Project shall not take place in wetland areas;
  - b) Construction and operation of the Coal Blending/Gypsum Loadout Project shall not impact threatened and endangered species on the Morgantown Generating Station property, or in the vicinity of the Morgantown Generating Station;
  - c) Dredging of the Potomac River shall not occur for the construction and operation of the Coal Blending/Gypsum Loadout Project at Morgantown Generating Station;
  - d) All possible methods to decrease the amount of gypsum from entering the Potomac River shall be applied, including but not limited to complete enclosure of the conveyor belt over the Potomac River in accordance with Mirant's CPCN application received by the Commission on August 1, 2008; and
  - e) The Joint Federal/State Application for the Alteration of Any Floodplain, Waterway, Tidal or Nontidal Wetland in Maryland Application for a permit to construct the Coal Blending/Gypsum Loadout Project for MDE (tracking permit #200560545/05-WL-0618) shall be completed and approved prior to construction.

#### Land Use

25. To the extent applicable, prior to construction, after final construction plans are drawn, Mirant shall consult with Charles County and PPRP to confirm that the Morgantown Generating Station will be in compliance with the 1996 Memorandum of Understanding presented to Charles County by the Potomac Electric Power Company to reduce storm water pollutant loads from the construction of additional impervious surfaces in the Critical Area.

#### Cultural Resources

26. Prior to construction, Mirant shall submit to the Maryland Historical Trust (MHT) a copy of training programs, or guidelines provided to Applicant inspectors or contractors, to identify and/or protect unforeseen archeological sites that may be revealed during construction of the project. If such relics are identified in the project

area, Mirant, in consultation with and as approved by MHT, shall develop and implement a plan for avoidance and protection, data recovery, or destruction without recovery of the properties adversely affected by the project.

27. Prior to construction, Mirant will consult with the MHT to identify historic properties that will potentially be impacted by the project and characterize the potential effect. If the MHT makes a determination of adverse effect on one or more historic properties, Mirant shall develop an impact mitigation plan that will be implemented upon approval by the MHT.

#### **Emergency Preparedness and Security**

28. Mirant shall provide PPRP and the PSC with access to copies of its security procedures, in particular those procedures addressing site and plant safety and security during construction and operation of the power plant, subject to federal laws regarding dissemination of such information. The procedures should address issues such as how Mirant plans to control vehicle and construction worker access and protect any vulnerable assets from being threatened from outside the perimeter of the property. The procedures should also identify how local, state, and federal agencies would be coordinated in the event of a large-scale emergency. Security procedures should consider the effects of any proposed measures on the surrounding community and mitigate adverse effects to the maximum extent possible.

#### **Visual Quality**

29. Mirant shall develop a lighting distribution plan that will mitigate intrusive night lighting and avoid undue glare onto adjoining properties. Mirant shall coordinate development of the plan with PPRP and the Charles County Division of Planning. Mirant shall submit the plan to PPRP and the PSC for review and approval prior to operation of the facility.

#### **Traffic**

30. Except in an emergency condition, including but not limited to, stoppage of rail deliveries for any reason to the Morgantown Generating Station, by acts of God, labor disputes, strikes, embargoes, shortage of supplies, fires, explosions, floods, insurrection, riots, breakdowns of or damage to plants, mines, equipment or facilities, by acts of the public enemy, Mirant shall not truck gypsum by-product to its Morgantown Generating Station from Chalk Point. In the event an emergency exists, Mirant shall notify in writing the Public Service Commission, engineering staff and the Maryland SHA regarding the institution of truck activity. Mirant shall contact SHA's Motor Carrier Division 410-582-5734 and SHA's District 5 at 410-841-1000 or 410-841-5450, 72 hours prior to commencing the trucking of gypsum by-product to the Morgantown Generating Station. Mirant shall consult with the Maryland SHA and the Charles County Department of Public Facilities to identify truck routes and operating procedures that minimize the impact of truck traffic on the public. The trucking of gypsum by-product to the Morgantown Generating Station shall cease when the emergency conditions no longer exist.

Within 90 days of the Final Order, Mirant shall submit a report to the PSC and SHA that identifies, after consultation with the SHA and Charles County, a specific route to be followed by all trucks used in emergency hauling operations and determines whether entrance modifications will be necessary to accommodate the truck usage during an emergency condition. If entrance modifications are determined to be necessary, Mirant shall obtain an access permit based upon plans prepared by Mirant's engineer for review and approval by SHA. The entrance construction modifications must be completed prior to emergency truck hauling operations. In the event that hauling operations must occur prior to the completion of entrance modifications, Mirant shall be required to complete routine roadway repairs as directed by SHA and complete entrance restoration and modifications as directed by SHA. Mirant shall repair roadway failures at entrance locations to and from state roadways resulting from the emergency trucking operations for a distance of up to one mile of the plant access points along the State roadways.

In the event Mirant elects to transport gypsum by-product by truck to the Morgantown Generating Station from Chalk Point for any reason other than an emergency event, Mirant shall seek modification of this CPCN. Under no circumstances shall Mirant truck more than 60,000 tons per year of gypsum from Chalk Point to Morgantown.

31. Consistent with Case 9085, the number of truckloads hauling materials, including by-products, from the Morgantown plant shall not exceed 200 loads per day.

**Miscellaneous**

32. Informational notifications and reports required in Conditions 10, 16, 20, 24e, 26, and 30 shall be sent to the Power Plant Research Program at:

Power Plant Assessment Division  
Department of Natural Resources  
Tawes State Office Building, B-3  
580 Taylor Avenue  
Annapolis, Maryland 21401



**DLA Piper US LLP**  
111 S. Calvert Street, Suite 1950  
Baltimore, Maryland 21202-6174  
T 410.580.3000  
F 410.580.3665  
W www.dlapiper.com

WILLIAM DUBOIS  
william.dubois@dlapiper.com  
T 410.580.4310  
F 410.580.3665

November 24, 2008

**VIA HAND-DELIVERY  
AND ELECTRONIC MAIL**

Ms. Terry J. Romine  
Executive Secretary  
William Donald Schaefer Tower  
6 St. Paul Street, 16<sup>th</sup> Floor  
Baltimore, MD 21202

Re: In The Matter Of The Application Of Mirant Mid-Atlantic, LLC For A Certificate Of Public Convenience And Necessity For Authority To Modify The Morgantown Generating Station In Charles County, Maryland, To Install A Coal Blending Facility And Gypsum Barge Loading Facility  
PSC Case No. 9148

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Dear Ms. Romine:

Enclosed for filing in the above-referenced case is an original and sixteen copies of an Agreement of Stipulation and Settlement and the Final Recommended Licensing Conditions. We ask that you please date-stamp the extra copy and return it to the awaiting messenger.

In addition, please note that while OPC will not participate in the Agreement of Stipulation and Settlement, it has requested that it be noted that OPC does not oppose the Conditions agreed to by the other parties. The conditions are included as Exhibit A to this filing.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'W. DuBois', written over a horizontal line.

William DuBois  
DLA Piper US LLP

Enclosures  
cc: Service List



**CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that on this 24th day of November 2008, copies of the foregoing Agreement of Stipulation and Settlement and the Final Recommended Licensing Conditions were distributed by First Class mail and electronic mail to:

M. Brent Hare, Esq.  
Brent A. Bolea, Esq.  
Assistants Attorney General  
Maryland Energy Administration  
1623 Forest Drive, Suite 300  
Annapolis, MD 21403  
Email: [bhare@energy.state.md.us](mailto:bhare@energy.state.md.us)  
[bbolea@energy.state.md.us](mailto:bbolea@energy.state.md.us)

Michael A. Dean, Esq.  
Office of Staff Counsel  
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William Donald Schaefer Tower  
6 St. Paul Street  
Baltimore, MD 21202-6806  
Email: [mdean@psc.state.md.us](mailto:mdean@psc.state.md.us)

Anne L. Johnson, Esquire  
Assistant People's Counsel  
William Donald Schaefer Tower  
6 St. Paul Street, Suite 2102  
Baltimore, MD 21202-6806  
Email: [annej@opc.state.md.us](mailto:annej@opc.state.md.us)

  
F. William DuBois

*Appendix B*  
*Detailed Emission Calculations*

**Table A1 - Morgantown Coal Blending Summary of Emissions**  
PSC Case No. 9148 - Morgantown Generating Station CPCN

COAL BLENDING UNLOADING MATERIALS HANDLING DETERMINATION						
Operation & Transportation	Emissions (lb/hr)			Emissions (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Existing Operations</b>						
100% to North or South Yard	9.24	4.37	1.37	3.22	1.52	0.478
<b>Proposed Operations</b>						
100% to North Yard Pile C OR	9.24	4.37	1.37	3.22	1.52	0.478
100% to South Yard Pile A Route 1 OR	3.02	1.43	0.449	1.05	0.497	0.156
100% to South Yard Pile A Route 2 OR	3.40	1.61	0.505	1.18	0.560	0.176
100% to South Yard Pile B	3.40	1.61	0.505	1.18	0.560	0.176
Change in Coal Unloading Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Maximum Coal Unloading Emissions	9.24	4.37	1.37	3.22	1.52	0.478
<b>COAL BLENDING RECLAIM MATERIALS HANDLING DETERMINATION</b>						
Operation & Transportation	Emissions (lb/hr)			Emissions (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Existing Operations</b>						
100% from North or South Yard OR	9.35	4.42	1.39	4.75	2.25	0.706
<b>Proposed Operations</b>						
100% from North Yard Pile C OR	1.09	0.514	0.162	0.552	0.261	0.082
100% from South Yard Pile A or B OR	1.09	0.514	0.162	0.552	0.261	0.082
100% from Emergency Backup	16.1	7.59	2.39	8.15	3.85	1.211
100% from Emergency Stamler Feeder	5.96	2.82	0.885	3.02	1.43	0.449
Change in Coal Reclaim Emissions	6.70	3.17	1.00	3.40	1.61	0.506
Maximum Coal Reclaim Emissions	16.05	7.59	2.39	8.15	3.85	1.21
<b>COAL BLENDING PROJECT</b>						
TOTALS	Emissions (lb/hr)			Emissions (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
Change in Coal Emissions	6.70	3.17	1.00	3.40	1.61	0.51
Total Coal Emissions	25.3	12.0	3.76	11.4	5.38	1.69

**Table A2 - Morgantown Coal Blending Facility - Unloading Operations**

PSC Case No. 9148 - Morgantown Generating Station CPCN

Note: Basis of Calculations - AP-42 Section 13.2.4 Aggregate Handling and Storage (11/06 Revision)

Uncontrolled Emission Factor (UEF) =  $k \cdot (0.0032)^k \cdot [(U/5)^{1.3}] / ((M/2)^{1.4})$   
 Controlled Emission Factor (CEF) =  $UEF \cdot (100 - \text{Removal Efficiency } \%) / 100$

Assumptions:	PM	PM-10	PM-2.5	
Particle Size Multiplier (k)	0.74	0.35	0.11	ug
Daily Mean Wind Speed (U)	19			mph
Mean Wind Speed (U) <sup>1</sup>		9.5		mph
Existing Moisture Content (M) <sup>2</sup>		6.62		%
New Moisture Content (M) <sup>2</sup>		4.5		%

**Control Removal Efficiencies & Material Throughput**

Batch-Drop Source Description	Control Method	Control Efficiency	Throughput		
			Ton/hr	Ton/day	Ton/yr
(1) Conveyor BC-4 to Conveyor F1 from Barge (E1)	Enclosed Transfer House	95 %	1750	42000	3,000,000
(2) Conveyor E to Conveyor F1 from Rail (E2)	Enclosed Transfer House	95 %	1750	42000	3,000,000
(3) Conveyor F1 drop to Stacker (E3)	Open Drop	0 %	1750	42000	3,000,000
(4) Stacker drop to North Yard Pile C (E4)	Open Drop	0 %	1750	42000	3,000,000
(5) Conveyor BC-4 to Conveyor M1 (N1)	Enclosed Transfer House	95 %	1750	42000	3,000,000
(6) Conveyor E to Conveyor M1 (N2)	Enclosed Transfer House	95 %	1750	42000	3,000,000
(7) Conveyor M1 to Conveyor N1 inside TT-1 (N3)	Enclosed Transfer House w/ dust suppression	95 %	1750	42000	3,000,000
(8) Conveyor N1 to Pile A inside TT-2 (N4)	Telescoping chute w/ water sprays or equivalent	75 %	1750	42000	3,000,000
(9) Conveyor N1 to Tripper Conveyor 01 inside TT-2 (N5)	Enclosed Transfer House w/ dust suppression	95 %	1750	42000	3,000,000
(10) Tripper Conveyor 01 to Pile A (N6)	Telescoping chute w/ water sprays or equivalent	75 %	1750	42000	3,000,000
(11) Tripper Conveyor 01 to Pile B inside TT-3 (N7)	Telescoping chute w/ water sprays or equivalent	75 %	1750	42000	3,000,000

**Calculated Emission Factors (annually)**

	PM	PM-10	PM-2.5	
UEF - Existing	0.001021	0.000483	0.000152	lb/ton
CEF (1)	0.000051	0.000024	0.0000076	lb/ton
CEF (2)	0.000051	0.000024	0.0000076	lb/ton
CEF (3)	0.001021	0.000483	0.0001518	lb/ton
CEF (4)	0.001021	0.000483	0.0001518	lb/ton
UEF - New	0.001753	0.000829	0.000261	lb/ton
CEF (5)	0.000088	0.000041	0.0000130	lb/ton
CEF (6)	0.000088	0.000041	0.0000130	lb/ton
CEF (7)	0.000088	0.000041	0.0000130	lb/ton
CEF (8)	0.000438	0.000207	0.0000651	lb/ton
CEF (9)	0.000088	0.000041	0.0000130	lb/ton
CEF (10)	0.000438	0.000207	0.0000651	lb/ton
CEF (11)	0.000438	0.000207	0.0000651	lb/ton

**Calculated Emission Factors (Short-term, daily)**

	PM	PM-10	PM-2.5	
UEF - Existing	0.002514	0.001189	0.000374	lb/ton
CEF (1)	0.000126	0.000059	0.0000187	lb/ton
CEF (2)	0.000126	0.000059	0.0000187	lb/ton
CEF (3)	0.002514	0.001189	0.0003737	lb/ton
CEF (4)	0.002514	0.001189	0.0003737	lb/ton
UEF - New	0.004316	0.002041	0.000642	lb/ton
CEF (5)	0.000216	0.000102	0.0000321	lb/ton
CEF (6)	0.000216	0.000102	0.0000321	lb/ton
CEF (7)	0.000216	0.000102	0.0000321	lb/ton
CEF (8)	0.001079	0.000510	0.0001604	lb/ton
CEF (9)	0.000216	0.000102	0.0000321	lb/ton
CEF (10)	0.001079	0.000510	0.0001604	lb/ton
CEF (11)	0.001079	0.000510	0.0001604	lb/ton

**Calculated Controlled Emissions**

	Annual (tpy)	Hourly (lb/hr)
PM (1)	0.077	0.220
PM-10 (1)	0.036	0.104
PM-2.5 (1)	0.011	0.033
PM (2)	0.077	0.220
PM-10 (2)	0.036	0.104
PM-2.5 (2)	0.011	0.033
PM (3)	1.53	4.40
PM-10 (3)	0.724	2.081
PM-2.5 (3)	0.228	0.654
PM (4)	1.53	4.40
PM-10 (4)	0.724	2.081
PM-2.5 (4)	0.228	0.654
PM (5)	0.131	0.378
PM-10 (5)	0.062	0.179
PM-2.5 (5)	0.020	0.056
PM (6)	0.131	0.378
PM-10 (6)	0.062	0.179
PM-2.5 (6)	0.020	0.056
PM (7)	0.131	0.378
PM-10 (7)	0.062	0.179
PM-2.5 (7)	0.020	0.056
PM (8)	0.657	1.888
PM-10 (8)	0.311	0.893
PM-2.5 (8)	0.098	0.281
PM (9)	0.131	0.378
PM-10 (9)	0.062	0.179
PM-2.5 (9)	0.020	0.056
PM (10)	0.657	1.888
PM-10 (10)	0.311	0.893
PM-2.5 (10)	0.098	0.281
PM (11)	0.657	1.888
PM-10 (11)	0.311	0.893
PM-2.5 (11)	0.098	0.281

**Calculated Uncontrolled Emissions**

	Annual (tpy)	Hourly (lb/hr)
PM (1)	1.53	4.40
PM-10 (1)	0.724	2.081
PM-2.5 (1)	0.228	0.654
PM (2)	1.53	4.40
PM-10 (2)	0.724	2.081
PM-2.5 (2)	0.228	0.654
PM (3)	1.53	4.40
PM-10 (3)	0.724	2.081
PM-2.5 (3)	0.228	0.654
PM (4)	1.53	4.40
PM-10 (4)	0.724	2.081
PM-2.5 (4)	0.228	0.654
PM (5)	1.53	4.40
PM-10 (5)	0.724	2.081
PM-2.5 (5)	0.228	0.654
PM (6)	1.53	4.40
PM-10 (6)	0.724	2.081
PM-2.5 (6)	0.228	0.654
PM (7)	1.53	4.40
PM-10 (7)	0.724	2.081
PM-2.5 (7)	0.228	0.654
PM (8)	1.53	4.40
PM-10 (8)	0.724	2.081
PM-2.5 (8)	0.228	0.654
PM (9)	1.53	4.40
PM-10 (9)	0.724	2.081
PM-2.5 (9)	0.228	0.654
PM (10)	1.53	4.40
PM-10 (10)	0.724	2.081
PM-2.5 (10)	0.228	0.654
PM (11)	1.53	4.40
PM-10 (11)	0.724	2.081
PM-2.5 (11)	0.228	0.654

**Note:**

- (1) Local Air Quality, 9.5 mph was used based on monitoring data acquired from Washington National Airport (provided by Mirant Mid Atlantic)
- (2) 6.62% and 4.5% Selected by Mirant Mid Atlantic as the high and low moisture contents respectively.

**Table A3 - Morgantown Coal Blending Facility - Reclaim Operations**

PSC Case No. 9148 - Morgantown Generating Station CPCN

Note: Basis of Calculations - AP-42 Section 13.2.4 Aggregate Handling and Storage (11/06 Revision)

Uncontrolled Emission Factor (UEF) =  $k \cdot (0.0032)^k \cdot [(U/5)^{1.3} / ((M/2)^{1.4})]$

Controlled Emission Factor (CEF) =  $UEF \cdot (100 - \text{Removal Efficiency } \%) / (100)$

Assumptions:	PM	PM-10	PM-2.5	
Particle Size Multiplier (k)	0.74	0.35	0.11	ug
Daily Mean Wind Speed (U)		19		mph
Mean Wind Speed (U) <sup>3</sup>		9.5		mph
Existing Moisture Content (M) <sup>2</sup>		6.62		%
New Moisture Content (M) <sup>2</sup>		4.5		%

**Control Removal Efficiencies & Material Throughput**

Batch-Drop Source Description	Control Method	Control Efficiency	Throughput		
			Ton/hr	Ton/day	Ton/yr
(1) Pile C Take-Up (Reclaimer) to Take-Up Unit Conveyor (AR1)	Open Drop	0%	1200	28800	3,000,000
(2) Take-Up Unit Conveyor to Conveyor F1 (AR2)	Open Drop	0%	1200	28800	3,000,000
(3) Conveyor F1 to Conveyor F2 (AR3)	Open Drop	0%	1200	28800	3,000,000
(4) Conveyor F2 to Surge Hopper (ER4)	Enclosed Transfer House	95%	1200	28800	3,000,000
(5) Surge Hopper to Conveyor J1 and/or J2 (ER5)	Enclosed Transfer House	95%	1200	28800	3,000,000
(6) Pile C to Conveyor R1 (NRN1)	Enclosed Reclaim Tunnel	99%	1200	28800	3,000,000
(7) Conveyor R1 to Conveyor S1 (NRN2)	Enclosed Transfer House w/ Dust Suppression	95%	1200	28800	3,000,000
(8) Conveyor S1 to Conveyor F2 (NR3)	Enclosed Transfer House	95%	1200	28800	3,000,000
(9) Conveyor F2 to Surge Hopper (ER4)	Enclosed Transfer House	95%	1200	28800	3,000,000
(10) Surge Hopper to Conveyor J1 and/or J2 (ER5)	Enclosed Transfer House	95%	1200	28800	3,000,000
(11) Pile A or B to Conveyor P1 (NRS1)	Enclosed Reclaim Tunnel	99%	1200	28800	3,000,000
(12) Conveyor P1 to Conveyor Q1 (NRS2)	Enclosed Transfer House w/ Dust Suppression	95%	1200	28800	3,000,000
(13) Conveyor Q1 to Conveyor F2 (NR3)	Enclosed Transfer House	95%	1200	28800	3,000,000
(14) Conveyor F2 to Surge Hopper (ER4)	Enclosed Transfer House	95%	1200	28800	3,000,000
(15) Surge Hopper to Conveyor J1 and/or J2 (ER5)	Enclosed Transfer House	95%	1200	28800	3,000,000

**Calculated Emission Factors (annually)**

	PM	PM-10	PM-2.5
UEF - Existing	0.001021	0.000483	0.000152 lb/ton
CEF (1)	0.001021	0.000483	0.0001518 lb/ton
CEF (2)	0.001021	0.000483	0.0001518 lb/ton
CEF (3)	0.001021	0.000483	0.0001518 lb/ton
CEF (4)	0.000051	0.000024	0.0000076 lb/ton
CEF (5)	0.000051	0.000024	0.0000076 lb/ton
UEF - New	0.001753	0.000829	0.000261 lb/ton
CEF (6)	0.000018	0.000008	0.0000026 lb/ton
CEF (7)	0.000088	0.000041	0.0000130 lb/ton
CEF (8)	0.000088	0.000041	0.0000130 lb/ton
CEF (9)	0.000088	0.000041	0.0000130 lb/ton
CEF (10)	0.000088	0.000041	0.0000130 lb/ton
CEF (11)	0.000018	0.000008	0.0000026 lb/ton
CEF (12)	0.000088	0.000041	0.0000130 lb/ton
CEF (13)	0.000088	0.000041	0.0000130 lb/ton
CE (14)	0.000088	0.000041	0.0000130 lb/ton
CEF (15)	0.000088	0.000041	0.0000130 lb/ton

**Calculated Emission Factors (Short-term, daily)**

	PM	PM-10	PM-2.5
UEF - Existing	0.002514	0.001189	0.000374 lb/ton
CEF (1)	0.002514	0.001189	0.0003737 lb/ton
CEF (2)	0.002514	0.001189	0.0003737 lb/ton
CEF (3)	0.002514	0.001189	0.0003737 lb/ton
CEF (4)	0.000126	0.000059	0.0000187 lb/ton
CEF (5)	0.000126	0.000059	0.0000187 lb/ton
UEF - New	0.004316	0.002041	0.000642 lb/ton
CEF (6)	0.000043	0.000020	0.0000064 lb/ton
CEF (7)	0.000216	0.000102	0.0000321 lb/ton
CEF (8)	0.000216	0.000102	0.0000321 lb/ton
CEF (9)	0.000216	0.000102	0.0000321 lb/ton
CEF (10)	0.000216	0.000102	0.0000321 lb/ton
CEF (11)	0.000043	0.000020	0.0000064 lb/ton
CEF (12)	0.000216	0.000102	0.0000321 lb/ton
CEF (13)	0.000216	0.000102	0.0000321 lb/ton
CE (14)	0.000216	0.000102	0.0000321 lb/ton
CEF (15)	0.000216	0.000102	0.0000321 lb/ton

**Calculated Controlled Emissions**

	Annual (tpy)	Hourly (lb/hr)
PM (1)	1.531	3.017
PM-10 (1)	0.724	1.427
PM-2.5 (1)	0.228	0.448
PM (2)	1.531	3.017
PM-10 (2)	0.724	1.427
PM-2.5 (2)	0.228	0.448
PM (3)	1.53	3.02
PM-10 (3)	0.724	1.427
PM-2.5 (3)	0.228	0.448
PM (4)	0.08	0.15
PM-10 (4)	0.036	0.071
PM-2.5 (4)	0.011	0.022
PM (5)	0.077	0.151
PM-10 (5)	0.036	0.071
PM-2.5 (5)	0.011	0.022
PM (6)	0.026	0.052
PM-10 (6)	0.012	0.024
PM-2.5 (6)	0.004	0.008
PM (7)	0.131	0.259
PM-10 (7)	0.062	0.122
PM-2.5 (7)	0.020	0.038
PM (8)	0.131	0.259
PM-10 (8)	0.062	0.122
PM-2.5 (8)	0.020	0.038
PM (9)	0.131	0.259
PM-10 (9)	0.062	0.122
PM-2.5 (9)	0.020	0.038
PM (10)	0.131	0.259
PM-10 (10)	0.062	0.122
PM-2.5 (10)	0.020	0.038
PM (11)	0.026	0.052
PM-10 (11)	0.012	0.024
PM-2.5 (11)	0.004	0.008
PM (12)	0.131	0.259
PM-10 (12)	0.062	0.122
PM-2.5 (12)	0.020	0.038
PM (13)	0.131	0.259
PM-10 (13)	0.062	0.122
PM-2.5 (13)	0.020	0.038
PM (14)	0.131	0.259
PM-10 (14)	0.062	0.122
PM-2.5 (14)	0.020	0.038
PM (15)	0.131	0.259
PM-10 (15)	0.062	0.122
PM-2.5 (15)	0.020	0.038

**Calculated Uncontrolled Emissions**

	Annual (tpy)	Hourly (lb/hr)
PM (1)	1.53	3.02
PM-10 (1)	0.724	1.427
PM-2.5 (1)	0.228	0.448
PM (2)	1.531	3.017
PM-10 (2)	0.724	1.427
PM-2.5 (2)	0.228	0.448
PM (3)	1.53	3.02
PM-10 (3)	0.724	1.427
PM-2.5 (3)	0.228	0.448
PM (4)	1.53	3.02
PM-10 (4)	0.724	1.427
PM-2.5 (4)	0.228	0.448
PM (5)	1.531	3.017
PM-10 (5)	0.724	1.427
PM-2.5 (5)	0.228	0.448
PM (6)	1.531	3.017
PM-10 (6)	0.724	1.427
PM-2.5 (6)	0.228	0.448
PM (7)	2.629	5.179
PM-10 (7)	1.243	2.449
PM-2.5 (7)	0.391	0.770
PM (8)	2.629	5.179
PM-10 (8)	1.243	2.449
PM-2.5 (8)	0.391	0.770
PM (9)	2.629	5.179
PM-10 (9)	1.243	2.449
PM-2.5 (9)	0.391	0.770
PM (10)	2.629	5.179
PM-10 (10)	1.243	2.449
PM-2.5 (10)	0.391	0.770
PM (11)	2.629	5.179
PM-10 (11)	1.243	2.449
PM-2.5 (11)	0.391	0.770
PM (12)	2.629	5.179
PM-10 (12)	1.243	2.449
PM-2.5 (12)	0.391	0.770
PM (13)	2.629	5.179
PM-10 (13)	1.243	2.449
PM-2.5 (13)	0.391	0.770
PM (14)	2.629	5.179
PM-10 (14)	1.243	2.449
PM-2.5 (14)	0.391	0.770
PM (15)	2.629	5.179
PM-10 (15)	1.243	2.449
PM-2.5 (15)	0.391	0.770

Note:

(1) Local Air Quality, 9.5 mph was used based on monitoring data acquired from Washington National Airport (provided by Mirant Mid Atlantic)

(2) 6.62% and 4.5% Selected by Mirant Mid Atlantic as the high and low moisture contents respectively.

**Table A4 - Morgantown Coal Blending Facility - Emergency Reclaim Operations**

PSC Case No. 9148 - Morgantown Generating Station CPCN

Note: Basis of Calculations - AP-42 Section 13.2.4 Aggregate Handling and Storage (11/06 Revision)

Uncontrolled Emission Factor (UEF) =  $k \cdot (0.0032) \cdot [(U/5)^{1.3}] / (M/2)^{1.4}$

Controlled Emission Factor (CEF) =  $UEF \cdot (100 - \text{Removal Efficiency } \%) / 100$

Assumptions:	PM	PM-10	PM-2.5	
Particle Size Multiplier (k)	0.74	0.35	0.11	ug
Daily Mean Wind Speed (U)	19			mph
Mean Wind Speed (U) <sup>1</sup>	9.5			mph
New Moisture Content (M) <sup>2</sup>	4.5			%

**Control Removal Efficiencies & Material Throughput**

Batch-Drop Source Description	Control Method	Control Efficiency	Throughput		
			Ton/hr	Ton/day	Ton/yr
(1) Pile C Take-Up Unit to Take-Up Unit Conveyor (AR1)	Open Drop	0 %	1200	28800	3,000,000
(2) Take-Up Unit Conveyor to Conveyor F1 (AR2)	Open Drop	0 %	1200	28800	3,000,000
(3) Conveyor F1 to Conveyor F2 (AR3)	Open Drop	0 %	1200	28800	3,000,000
(4) Conveyor F2 to Surge Hopper (ER4)	Enclosed Transfer House	95 %	1200	28800	3,000,000
(5) Surge Hopper to Conveyor J1 and/or J2 (ER5)	Enclosed Transfer House	95 %	1200	28800	3,000,000
(6) Truck Dump to Stamler Feeder (ER1)	Enclosed Transfer House	95 %	1200	28800	3,000,000
(7) Stamler Feeder to Conveyor U1 (ER2)	Open Drop	0 %	1200	28800	3,000,000
(8) Conveyor U1 to Surge Hopper (ER4)	Enclosed Transfer House	95 %	1200	28800	3,000,000
(9) Surge Hopper to Conveyor J1 and/or J2 (ER5)	Enclosed Transfer House	95 %	1200	28800	3,000,000

**Calculated Emission Factors (annually)**

UEF - Existing	0.001753	0.000829	0.000261	lb/ton
CEF (1)	0.001753	0.000829	0.0002605	lb/ton
CEF (2)	0.001753	0.000829	0.0002605	lb/ton
CEF (3)	0.001753	0.000829	0.0002605	lb/ton
CEF (4)	0.000088	0.000041	0.0000130	lb/ton
CEF (5)	0.000088	0.000041	0.0000130	lb/ton
CEF (6)	0.000088	0.000041	0.0000130	lb/ton
CEF (7)	0.001753	0.000829	0.0002605	lb/ton
CE (8)	0.000088	0.000041	0.0000130	lb/ton
CEF (9)	0.000088	0.000041	0.0000130	lb/ton

**Calculated Emission Factors (Short-term, daily)**

UEF - Existing	0.004316	0.002041	0.000642	lb/ton
CEF (1)	0.004316	0.002041	0.0006415	lb/ton
CEF (2)	0.004316	0.002041	0.0006415	lb/ton
CEF (3)	0.004316	0.002041	0.0006415	lb/ton
CEF (4)	0.000216	0.000102	0.0000321	lb/ton
CEF (5)	0.000216	0.000102	0.0000321	lb/ton
CEF (6)	0.000216	0.000102	0.0000321	lb/ton
CEF (7)	0.004316	0.002041	0.0006415	lb/ton
CE (8)	0.000216	0.000102	0.0000321	lb/ton
CEF (9)	0.000216	0.000102	0.0000321	lb/ton

**Calculated Controlled Emissions**

	Annual (tpy)	Hourly (lb/hr)
PM (1)	2.629	5.179
PM-10 (1)	1.243	2.449
PM-2.5 (1)	0.391	0.770
PM (2)	2.629	5.179
PM-10 (2)	1.243	2.449
PM-2.5 (2)	0.391	0.770
PM (3)	2.629	5.179
PM-10 (3)	1.243	2.449
PM-2.5 (3)	0.391	0.770
PM (4)	0.131	0.259
PM-10 (4)	0.062	0.122
PM-2.5 (4)	0.020	0.038
PM (5)	0.131	0.259
PM-10 (5)	0.062	0.122
PM-2.5 (5)	0.020	0.038
PM (6)	0.131	0.259
PM-10 (6)	0.062	0.122
PM-2.5 (6)	0.020	0.038
PM (7)	2.629	5.179
PM-10 (7)	1.243	2.449
PM-2.5 (7)	0.391	0.770
PM (8)	0.131	0.259
PM-10 (8)	0.062	0.122
PM-2.5 (8)	0.020	0.038
PM (9)	0.131	0.259
PM-10 (9)	0.062	0.122
PM-2.5 (9)	0.020	0.038

**Calculated Uncontrolled Emissions**

	Annual (tpy)	Hourly (lb/hr)
PM (1)	2.629	5.179
PM-10 (1)	1.243	2.449
PM-2.5 (1)	0.391	0.770
PM (2)	2.629	5.179
PM-10 (2)	1.243	2.449
PM-2.5 (2)	0.391	0.770
PM (3)	2.629	5.179
PM-10 (3)	1.243	2.449
PM-2.5 (3)	0.391	0.770
PM (4)	2.629	5.179
PM-10 (4)	1.243	2.449
PM-2.5 (4)	0.391	0.770
PM (5)	2.629	5.179
PM-10 (5)	1.243	2.449
PM-2.5 (5)	0.391	0.770
PM (6)	2.629	5.179
PM-10 (6)	1.243	2.449
PM-2.5 (6)	0.391	0.770
PM (7)	2.629	5.179
PM-10 (7)	1.243	2.449
PM-2.5 (7)	0.391	0.770
PM (8)	2.629	5.179
PM-10 (8)	1.243	2.449
PM-2.5 (8)	0.391	0.770
PM (9)	2.629	5.179
PM-10 (9)	1.243	2.449
PM-2.5 (9)	0.391	0.770

Note:

- (1) Local Air Quality, 9.5 mph was used based on monitoring data acquired from Washington National Airport (provided by Mirant Mid Atlantic)
- (2) 6.62% and 4.5% Selected by Mirant Mid Atlantic as the high and low moisture contents respectively.

**Table A5 - Coal Class I and II TAP Emissions - Proposed Operations**

PSC Case No. 9148 - Morgantown Generating Station CPCN

**TOTAL HAP/TAP Emissions Summary**

HAP/TAP	TAP Class	Concentration ppm (w/w)	Concentration Source*	PM <sub>10</sub> Total		PM <sub>2.5</sub> Total	
				lb/hr	tpy	lb/hr	tpy
Arsenic	I	26	1	3.11E-04	1.40E-04	9.78E-05	4.39E-05
Beryllium	I	2.22	4	2.66E-05	1.19E-05	8.35E-06	3.75E-06
Cadmium	I	0.44	4	5.26E-06	2.37E-06	1.65E-06	7.43E-07
Nickel	I	22	1	2.63E-04	1.18E-04	8.27E-05	3.72E-05
Antimony	II	0.81	1	9.69E-06	4.35E-06	3.05E-06	1.37E-06
Barium	II	84.4	2	1.01E-03	4.54E-04	3.17E-04	1.43E-04
Chlorine	II	1900	4	2.27E-02	1.02E-02	7.14E-03	3.21E-03
Chromium	II	26.7	1	3.19E-04	1.44E-04	1.00E-04	4.51E-05
Cobalt	II	11	1	1.32E-04	5.91E-05	4.14E-05	1.86E-05
Copper	II	19.91	3	2.38E-04	1.07E-04	7.49E-05	3.36E-05
Fluorine	II	83	4	9.93E-04	4.46E-04	3.12E-04	1.40E-04
Manganese	II	36	4	4.31E-04	1.94E-04	1.35E-04	6.08E-05
Mercury	II	0.42	1	5.02E-06	2.26E-06	1.58E-06	7.10E-07
Molybdenum	II	16.1	3	1.93E-04	8.66E-05	6.05E-05	2.72E-05
Selenium	II	3.8	1	4.55E-05	2.04E-05	1.43E-05	6.42E-06
Silver	II	0.13	2	1.56E-06	6.99E-07	4.89E-07	2.20E-07
Tellurium	II	59.54	2	7.12E-04	3.20E-04	2.24E-04	1.01E-04
Thallium	II	0.92	2	1.10E-05	4.95E-06	3.46E-06	1.55E-06
Vanadium	II	30.98	4	3.71E-04	1.67E-04	1.16E-04	5.23E-05
Zinc	II	96.3	2	1.15E-03	5.18E-04	3.62E-04	1.63E-04
Lead	II	10	1	1.20E-04	5.38E-05	3.76E-05	1.69E-05
							4.11E-03

Notes:

\* - HAP concentration determined by worst-case from multiple sources -- Sources listed below.

Sources:

1 - Concentration in coal provided by Mirant PSC Application PSC Case No. 9031

2 - HAP concentration in coal is maximum concentration determined by USGS COALQUAL Database Trace Element for the Central Appalachian Region, <http://energy.er.usgs.gov/coalqual.htm>

3 - HAP concentration in coal provided by Mirant Amendment to Application PSC Case No. 9085

**Table B1 - Morgantown Gypsum Loadout Summary of Emissions**  
PSC Case No. 9148 - Morgantown Generating Station CPCN

GYPSUM MATERIALS HANDLING DETERMINATION						
Operation	Emissions (lb/hr)			Emissions (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Existing Operations</b>						
Transport Gypsum by Rail OR	0.074	0.035	0.005	0.121	0.057	0.009
<b>Proposed Operations</b>						
Transport Gypsum by Rail OR	2.65	1.25	0.190	0.535	0.253	0.041
Transport Gypsum by Rail AND Truck <sup>a,b</sup>	2.89	1.30	0.197	1.57	0.45	0.071
Change in Gypsum Material Handling Emissions	2.81	1.27	0.192	1.45	0.397	0.062
Maximum Gypsum Material Handling Emissions	2.89	1.30	0.197	1.57	0.45	0.071
<b>GYPSUM WIND EROSION</b>						
Operation	Emissions (lb/hr)			Emissions (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Existing Operations</b>						
None	0.00	0.00	0.00	0.00	0.00	0.00
<b>Proposed Operations</b>						
Gypsum Barge Emissions AND	0.121	0.060	0.033	0.078	0.039	0.021
Gypsum BC-05 Conveyor Emissions	0.006	0.003	0.002	0.004	0.002	0.001
Change in Wind Erosion Emissions	0.127	0.063	0.034	0.082	0.041	0.022
Maximum Wind Erosion Emissions	0.127	0.063	0.034	0.082	0.041	0.022
<b>GYPSUM LOADOUT PROJECT</b>						
TOTALS	Emissions (lb/hr)			Emissions (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Change in Gypsum Emissions</b>	<b>2.94</b>	<b>1.33</b>	<b>0.226</b>	<b>1.53</b>	<b>0.438</b>	<b>0.084</b>
<b>Total Gypsum Emissions</b>	<b>3.02</b>	<b>1.36</b>	<b>0.231</b>	<b>1.65</b>	<b>0.50</b>	<b>0.093</b>

Notes:

- a. Emissions by truck equal to handling emissions from rail plus potential emissions from paved roads  
b. Maximum transport by truck for emergency purposes is equivalent to 60,000 tons/year



**Table B2 - Gypsum Material Handling Emissions from Rail - Existing Operations**

PSC Case No. 9148 - Morgantown Generating Station CPCN

Note: Basis of Calculations - AP-42 Section 13.2.4 Aggregate Handling and Storage (11/06 Revision)

Uncontrolled Emission Factor (UEF) =  $k \cdot (0.0032)^k \cdot [(U/5)^{1.3}] / [(M/2)^{1.4}]$   
 Controlled Emission Factor (CEF) =  $UEF \cdot (100 - \text{Removal Efficiency } \%) / (100)$

Assumptions:	PM	PM-10	PM-2.5	
Particle Size Multiplier (k)	0.74	0.35	0.053	ug
Daily Mean Wind Speed (U)		19		mph
Mean Wind Speed (U) <sup>1</sup>		9.5		mph
Gypsum Moisture Content (M) <sup>2</sup>		10		%

*Control Removal Efficiencies & Material Throughput*

Batch-Drop Source Description	Control Method	Control Efficiency	Throughput		
			Ton/hr	Ton/day	Ton/yr
(1) Gypsum from FGD Scrubber to Discharge Conveyor (GU-1)	Enclosed Transfer & Conveyor	95 %	100	2400	703,000
(2) Discharge Conveyor to Transfer House 1 (GU-2)	Enclosed Transfer House	95 %	100	2400	703,000
(3) Transfer House 1 to Transfer House 2 (GU-3)	Enclosed Transfer House	95 %	100	2400	703,000
(4) Transfer House 2 to Gypsum Storage Pile (GU-4)	Enclosed Pile	95 %	100	2400	703,000
(5) Storage Pile to Loadout Conveyor (GL-1)	Partially Enclosed Building	70 %	500	1950	703,000
(6) Loadout Conveyor to Transfer House/Loadout Conveyor (GL-2)	Enclosed Transfer House	95 %	500	1950	703,000
(7) Loadout Conveyor to Truck or Rail (GL-3)	Enclosed	95 %	500	1950	703,000

*Calculated Emission Factors (annually)*

	PM	PM-10	PM-2.5	
UEF	0.000573	0.000271	0.000041	lb/ton
CEF (1)	0.000029	0.000014	0.0000021	lb/ton
CEF (2)	0.000029	0.000014	0.0000021	lb/ton
CEF (3)	0.000029	0.000014	0.0000021	lb/ton
CEF (4)	0.000029	0.000014	0.0000021	lb/ton
CEF (5)	0.000172	0.000081	0.0000123	lb/ton
CEF (6)	0.000029	0.000014	0.0000021	lb/ton
CEF (7)	0.000029	0.000014	0.0000021	lb/ton

*Calculated Emission Factors (Short-term, daily)*

	PM	PM-10	PM-2.5	
UEF	0.001411	0.000667	0.000101	lb/ton
CEF (1)	0.000071	0.000033	0.0000051	lb/ton
CEF (2)	0.000071	0.000033	0.0000051	lb/ton
CEF (3)	0.000071	0.000033	0.0000051	lb/ton
CEF (4)	0.000071	0.000033	0.0000051	lb/ton
CEF (5)	0.000423	0.000200	0.0000303	lb/ton
CEF (6)	0.000071	0.000033	0.0000051	lb/ton
CEF (7)	0.000071	0.000033	0.0000051	lb/ton

*Calculated Controlled Emissions*

	Annual (tpy)	Hourly (lb/hr)
PM (1)	0.010	0.007
PM-10 (1)	0.005	0.003
PM-2.5 (1)	0.001	0.001
PM (2)	0.010	0.007
PM-10 (2)	0.005	0.003
PM-2.5 (2)	0.001	0.001
PM (3)	0.010	0.007
PM-10 (3)	0.005	0.003
PM-2.5 (3)	0.001	0.001
PM (4)	0.010	0.007
PM-10 (4)	0.005	0.003
PM-2.5 (4)	0.001	0.001
PM (5)	0.060	0.034
PM-10 (5)	0.029	0.016
PM-2.5 (5)	0.004	0.002
PM (6)	0.010	0.006
PM-10 (6)	0.005	0.003
PM-2.5 (6)	0.001	0.000
PM (7)	0.010	0.006
PM-10 (7)	0.005	0.003
PM-2.5 (7)	0.001	0.000

*Calculated Uncontrolled Emissions*

	Annual (tpy)	Hourly (lb/hr)
PM (1)	0.201	0.141
PM-10 (1)	0.095	0.067
PM-2.5 (1)	0.014	0.010
PM (2)	0.201	0.141
PM-10 (2)	0.095	0.067
PM-2.5 (2)	0.014	0.010
PM (3)	0.201	0.141
PM-10 (3)	0.095	0.067
PM-2.5 (3)	0.014	0.010
PM (4)	0.201	0.141
PM-10 (4)	0.095	0.067
PM-2.5 (4)	0.014	0.010
PM (5)	0.201	0.115
PM-10 (5)	0.095	0.054
PM-2.5 (5)	0.014	0.008
PM (6)	0.201	0.115
PM-10 (6)	0.095	0.054
PM-2.5 (6)	0.014	0.008
PM (7)	0.201	0.115
PM-10 (7)	0.095	0.054
PM-2.5 (7)	0.014	0.008

Note:

- (1) Local Air Quality, 9.5 mph was used based on monitoring data acquired from Ronald Reagan National Airport (provided by Mirant Mid Atlantic)
- (2) 2.0% Selected by Mirant Mid Atlantic as the Lowest Estimated moisture content. AP-42 provides a range of 0.25-4.8 (Min-Max)

**Table B3 - Gypsum Material Handling Emissions from Rail - Proposed Operations**

PSC Case No. 9148 - Morgantown Generating Station CPCN

Note: Basis of Calculations - AP-42 Section 13.2.4 Aggregate Handling and Storage (11/06 Revision)

Uncontrolled Emission Factor (UEF) =  $k \cdot (0.0032)^k \cdot ((U/5)^{1.3}) / ((M/2)^{1.4})$

Controlled Emission Factor (CEF) =  $UEF \cdot (100 - \text{Removal Efficiency } \%) / 100$

Assumptions:	PM	PM-10	PM-2.5	
Particle Size Multiplier (k)	0.74	0.35	0.053	ug
Daily Mean Wind Speed (U)	19			mph
Mean Wind Speed (U)	9.5			mph
Gypsum Moisture Content (M) <sup>3</sup>	10			%

**Control Removal Efficiencies & Material Throughput**

Batch-Drop Source Description	Control Method	Control Efficiency	Throughput		
			Ton/hr	Ton/day	Ton/yr
(1) Rail car to conveyor hopper (Rail Unloading 1)	Enclosed Drop	0 %	100	2400	279,000
(2) Transfer Hopper to Conveyor (Rail Unloading 2)	Enclosed Transfer House	95 %	100	2400	279,000
(3) Rail Unloading Conveyor to MC-2 (Rail Unloading 3)	Enclosed Transfer & Conveyor	95 %	100	2400	279,000
(4) Gypsum from FGD Scrubber to Discharge Conveyor (GU-1)	Enclosed Transfer & Conveyor	95 %	100	2400	800,000
(5) Discharge Conveyor to Transfer House 1 (GU-2)	Enclosed Transfer House	95 %	100	2400	800,000
(6) Transfer House 1 to Transfer House 2 (GU-3)	Enclosed Transfer House	95 %	100	2400	800,000
(7) Transfer House 2 to Gypsum Storage Pile (GU-4)	Enclosed Pile	95 %	100	2400	800,000
(8) Storage area to Conveyor BC-01 (GTI-1)	Partially Enclosed Building	70 %	1000	24000	800,000
(9) Conveyor BC-01 to Conveyor BC-02 (GTI-2)	Enclosed Transfer House	95 %	1000	24000	800,000
(10) Conveyor BC-02 to Conveyor BC-03 (GTI-3)	Enclosed Transfer House	95 %	1000	24000	800,000
(11) Conveyor BC-03 to Conveyor BC-04 (GTI-4)	Enclosed Transfer House	95 %	1000	24000	800,000
(12) Conveyor BC-04 to Conveyor BC-05 (GTI-5)	Enclosed Transfer House	95 %	1000	24000	800,000
(13) Conveyor BC-05 to Conveyor BC-06 (GTI-6)	Open Drop	0 %	1000	24000	800,000
(14) Conveyor BC-06 to Barge via telescoping chute (GTI-7)	Telescoping chute	75 %	1000	24000	800,000

**Calculated Emission Factors (annually)**

	PM	PM-10	PM-2.5	
UEF	0.000573	0.000271	0.000041	lb/ton
CEF (1)	0.000573	0.000271	0.000041	lb/ton
CEF (2)	0.000029	0.000014	0.000002	lb/ton
CEF (3)	0.000029	0.000014	0.000002	lb/ton
CEF (4)	0.000029	0.000014	0.000002	lb/ton
CEF (5)	0.000029	0.000014	0.000002	lb/ton
CEF (6)	0.000029	0.000014	0.000002	lb/ton
CEF (7)	0.000029	0.000014	0.000002	lb/ton
CEF (8)	0.000172	0.000081	0.000012	lb/ton
CEF (9)	0.000029	0.000014	0.000002	lb/ton
CEF (10)	0.000029	0.000014	0.000002	lb/ton
CEF (11)	0.000029	0.000014	0.000002	lb/ton
CEF (12)	0.000029	0.000014	0.000002	lb/ton
CEF (13)	0.000573	0.000271	0.000041	lb/ton
CEF (14)	0.000143	0.000068	0.000010	lb/ton

**Calculated Emission Factors (Short-term, daily)**

	PM	PM-10	PM-2.5	
UEF	0.001411	0.000667	0.000101	lb/ton
CEF (1)	0.001411	0.000667	0.000101	lb/ton
CEF (2)	0.000071	0.000033	0.000005	lb/ton
CEF (3)	0.000071	0.000033	0.000005	lb/ton
CEF (4)	0.000071	0.000033	0.000005	lb/ton
CEF (5)	0.000071	0.000033	0.000005	lb/ton
CEF (6)	0.000071	0.000033	0.000005	lb/ton
CEF (7)	0.000071	0.000033	0.000005	lb/ton
CEF (8)	0.000423	0.000200	0.000030	lb/ton
CEF (9)	0.000071	0.000033	0.000005	lb/ton
CEF (10)	0.000071	0.000033	0.000005	lb/ton
CEF (11)	0.000071	0.000033	0.000005	lb/ton
CEF (12)	0.000071	0.000033	0.000005	lb/ton
CEF (13)	0.001411	0.000667	0.000101	lb/ton
CEF (14)	0.000353	0.000167	0.000025	lb/ton

**Calculated Controlled Emissions**

	Annual (tpy)	Hourly (lb/hr)
PM (1)	0.080	0.141
PM-10 (1)	0.038	0.067
PM-2.5 (1)	0.006	0.010
PM (2)	0.004	0.007
PM-10 (2)	0.002	0.003
PM-2.5 (2)	0.000	0.001
PM (3)	0.004	0.007
PM-10 (3)	0.002	0.003
PM-2.5 (3)	0.003	0.001
PM (4)	0.011	0.007
PM-10 (4)	0.005	0.003
PM-2.5 (4)	0.001	0.001
PM (5)	0.011	0.007
PM-10 (5)	0.005	0.003
PM-2.5 (5)	0.001	0.001
PM (6)	0.011	0.007
PM-10 (6)	0.005	0.003
PM-2.5 (6)	0.001	0.001
PM (7)	0.011	0.007
PM-10 (7)	0.005	0.003
PM-2.5 (7)	0.001	0.001
PM (8)	0.069	0.423
PM-10 (8)	0.033	0.200
PM-2.5 (8)	0.005	0.030
PM (9)	0.011	0.071
PM-10 (9)	0.005	0.033
PM-2.5 (9)	0.001	0.005
PM (10)	0.011	0.071
PM-10 (10)	0.005	0.033
PM-2.5 (10)	0.001	0.005
PM (11)	0.011	0.071
PM-10 (11)	0.005	0.033
PM-2.5 (11)	0.001	0.005
PM (12)	0.011	0.071
PM-10 (12)	0.005	0.033
PM-2.5 (12)	0.001	0.005
PM (13)	0.229	1.411
PM-10 (13)	0.108	0.667
PM-2.5 (13)	0.016	0.101
PM (14)	0.057	0.353
PM-10 (14)	0.027	0.167
PM-2.5 (14)	0.004	0.025

**Calculated Uncontrolled Emissions**

	Annual (tpy)	Hourly (lb/hr)
PM (1)	0.080	0.141
PM-10 (1)	0.038	0.067
PM-2.5 (1)	0.006	0.010
PM (2)	0.080	0.141
PM-10 (2)	0.038	0.067
PM-2.5 (2)	0.006	0.010
PM (3)	0.080	0.141
PM-10 (3)	0.038	0.067
PM-2.5 (3)	0.006	0.010
PM (4)	0.229	1.411
PM-10 (4)	0.108	0.667
PM-2.5 (4)	0.016	0.101
PM (5)	0.229	1.411
PM-10 (5)	0.108	0.667
PM-2.5 (5)	0.016	0.101
PM (6)	0.229	1.411
PM-10 (6)	0.108	0.667
PM-2.5 (6)	0.016	0.101
PM (7)	0.229	1.411
PM-10 (7)	0.108	0.667
PM-2.5 (7)	0.016	0.101
PM (8)	0.229	1.411
PM-10 (8)	0.108	0.667
PM-2.5 (8)	0.016	0.101
PM (9)	0.229	1.411
PM-10 (9)	0.108	0.667
PM-2.5 (9)	0.016	0.101
PM (10)	0.229	1.411
PM-10 (10)	0.108	0.667
PM-2.5 (10)	0.016	0.101
PM (11)	0.229	1.411
PM-10 (11)	0.108	0.667
PM-2.5 (11)	0.016	0.101
PM (12)	0.229	1.411
PM-10 (12)	0.108	0.667
PM-2.5 (12)	0.016	0.101
PM (13)	0.229	1.411
PM-10 (13)	0.108	0.667
PM-2.5 (13)	0.016	0.101
PM (14)	0.229	1.411
PM-10 (14)	0.108	0.667
PM-2.5 (14)	0.016	0.101

Note:

- (1) Local Air Quality, 9.5 mph was used based on monitoring data acquired from Ronald Reagan National Airport (provided by Mirant Mid Atlantic)
- (2) 2.0% Selected by Mirant Mid Atlantic as the Lowest Estimated moisture content. AP-42 provides a range of 0.25-4.8 (Min-Max)

**Table B4 - Gypsum Paved Road Emissions from Emergency Trucks - Proposed Operations**

PSC Case No. 9148 - Morgantown Generating Station CPCN

Note: Basis of Calculations - AP-42 Section 13.2.1.3 for Paved Roads (2006 Revision)

Uncontrolled Emission Factor (UEF) =  $[k (sl/2)^{.65} (w/3)^{1.5} - C] * (1-(P/4N))$ Controlled Emission Factor (CEF) =  $UEF * ((100 - \text{Removal Efficiency \%}) / (100))$ 

<i>Assumptions:</i>	PM	PM-10	PM-2.5	
Particle Size Multiplier (k)	0.082	0.016	0.0024	ug
Road Surface Silt Loading (sl) <sup>1</sup>		1		g/m <sup>2</sup>
Emission Factor (C) <sup>2</sup>	0.00047	0.00047	0.00036	lb/VMT
Miles traveled per truck		1.74		Miles/Truck
Truck Per Day <sup>3</sup>		8.2		Truck Trips/Day
# days w/Precip > 0.01 in (p)		114		Days
# days in Averaging Period (N)		365		Days
Average Weight of Vehicle (w)		22.5		Tons

<sup>1</sup> Based on Golder Study<sup>2</sup> Based on 1980s vehicle fleet exhaust, brake, and tire wear<sup>3</sup> Based on 365 days per year and 20 tons gypsum per truck*Control Removal Efficiencies*

<i>Control Method</i>	<i>Control Efficiency %</i>
Water Sprays	60

*Calculated Emission Factors (annually)*

UEF	PM	PM-10	PM-2.5
lb/VMT (w/out rainfall)	1.07	0.209	0.031
lb/VMT (w/rainfall)	0.989	0.193	0.029

*Calculated Uncontrolled Emissions*

lb/yr (w/out rainfall)	5600	1091	162
lb/yr (w/ rainfall)	5163	1006	149
lb/hr (w/out rainfall)	0.639	0.125	0.019
lb/hr (w/ rainfall)	0.589	0.115	0.017
Tons/yr (w/out rainfall)	2.80	0.545	0.081
Tons/yr (w/rainfall)	2.58	0.503	0.075

*Controlled Emissions*

lb/hr (w/out rainfall)	0.256	0.050	0.007
lb/hr (w/ rainfall)	0.236	0.046	0.007
Tons/yr (w/out rainfall)	1.12	0.218	0.032
<b>Tons/yr (w/rainfall)</b>	<b>1.03</b>	<b>0.201</b>	<b>0.030</b>

**Table B5 - Gypsum Wind Erosion Emissions - Proposed Operations**

PSC Case No. 9148 - Morgantown Generating Station CPCN

**Initial Information**

**Surface Area**

Size of 15,000 ton barge = 418 ft x 75 ft; 20,000 ton barge = 485 x 80

**Barge Pile**

**Conveyor BC-05**

418 ft long, 75 ft wide

95 ft long, 4 ft wide

Sq Ft	Acres
31350	0.72

Sq Ft	Acres
380	0.01

**Barge Unloading Schedule**

15,000 ton barges at 800,000 tons/year

days/year
54

days/year
54

**Equations**

**PM Emission Factor Equation:**  $e \text{ (lb/day/acre)} = 1.7 * (s/1.5) * ((365-p)/235) * (f/15)$

Reference: EPA's Fugitive Dust Background Document (EPA-450/2-92-004):

Section 2.3.1.3.3 - Wind Emissions from Continuously Active Piles

**Where: Units stated above equal**

s = silt content %

p = number of days with .01 inches precipitation

f = Percentage of time wind speed exceeds 5.4 m/s

References:

[AP-42 Table 13.2.4-1 Crushed Limestone (max)]

(114 is normal, 100 for a dry year is conservative)

[Reagan National Airport wind data 1991-1995]\*

\*100 used for conveyor to account for moving conveyor

1.9
100
24.9

1.9
100
100

**PM Emissions (lb/day) = e (lb/day/acre) \* Barge Surface Area (acres)**

$PM_{10} = 0.5 \times PM$  [EPA-450/3-98-008]

$PM_{2.5} = 0.2/0.74 \times PM$  [AP-42 Section 13.2.4]

**PM Emissions (ton/year) = PM Emissions (lb/day) \* Barge Delivery Schedule (days/year) / 2000 lb/ton**

**Results**

**Emissions**

**Barge Pile**

**Conveyor BC-06**

PM(TSP)

PM<sub>10</sub>

PM<sub>2.5</sub>

lb/day
2.90
1.45
0.78

lb/day
0.14
0.07
0.038

PM(TSP)

PM<sub>10</sub>

PM<sub>2.5</sub>

ton/yr
0.078
0.039
0.021

ton/yr
0.004
0.002
0.001

**Notes:**

(1) The emissions estimated are based on the barge at the dock for 24 hrs per day. The actual time to unload is the material is estimated to be 16 hours/day according to the application.

**Table B6 - Gypsum Class I and II TAP Emissions - Proposed Operations**

PSC Case No. 9148 - Morgantown Generating Station CPCN

Limestone Material Handling Maximum Emissions Increase

PM10	1.36 tons/year
PM2.5	0.231 tons/year

Limestone Unloading Operations:

1,000 tons/hour  
800 hours/year  
800,000 tons/year

Class I TAPs

Type	Arsenic HAP	Cadmium HAP	Nickel HAP	Total	Maximum
	Concentration (ppm)				
Limestone	2.5	2	20		
Gypsum	1.84	1.47	14.7		
<i>PM10</i>					
Emissions (tpy)	2.51E-06	2.01E-06	2.01E-05	2.46E-05	2.01E-05
Emissions (lb/hr)	6.27E-06	5.01E-06	5.01E-05	6.14E-05	5.01E-05
<i>PM2.5</i>					
Emissions (tpy)	4.25E-07	3.40E-07	3.40E-06	4.16E-06	3.40E-06
Emissions (lb/hr)	1.06E-06	8.50E-07	8.50E-06	1.04E-05	8.50E-06

Note: Emissions = PM emissions \* TAP concentration in Limestone \* Scale of Molecular weights (Limestone = 100 g/mol; Gypsum = 136 g/mol)

Source: Table 3-12 and 3-13 - EPCRA Section 313, Electricity Generating Facilities taken from *The Release*

of Trace Metals From Limestone During Flue Gas Desulfurization by Electric Utilities, Chemistry Report, OPPT, March 26, 1997.

Class II TAPs

Type	Barium	Chromium HAP	Cobalt HAP	Manganese HAP	Mercury HAP	Selenium HAP	Silver	Zinc	Total	Maximum
	Concentration in Limestone (ppm)									
Limestone	2000	500	5	1100	1	0.08	1	200		
Gypsum	1073	268	2.68	590	0.54	0.043	0.54	107		
<i>PM10</i>										
Emissions (tpy)	1.46E-03	3.66E-04	3.66E-06	8.05E-04	7.31E-07	5.85E-08	7.31E-07	1.46E-04	2.78E-03	1.46E-03
Emissions (lb/hr)	3.66E-03	9.14E-04	9.14E-06	2.01E-03	1.83E-06	1.46E-07	1.83E-06	3.66E-04	6.96E-03	3.66E-03
<i>PM2.5</i>										
Emissions (tpy)	2.48E-04	6.20E-05	6.20E-07	1.36E-04	1.24E-07	9.91E-09	1.24E-07	2.48E-05	4.72E-04	2.48E-04
Emissions (lb/hr)	6.20E-04	1.55E-04	1.55E-06	3.41E-04	3.10E-07	2.48E-08	3.10E-07	6.20E-05	1.18E-03	6.20E-04

Note: Emissions = PM emissions \* TAP concentration in Limestone \* tons per year Gypsum / tons per year Limestone

Source: Table 3-12 and 3-13 - EPCRA Section 313, Electricity Generating Facilities taken from *The Release*

of Trace Metals From Limestone During Flue Gas Desulfurization by Electric Utilities, Chemistry Report, OPPT, March 26, 1997.

**Table C1 - Summary of Change in Particulate Matter Emissions***PSC Case No. 9148 - Morgantown Generating Station CPCN*

SUMMARY OF PM EMISSIONS						
Project Description	Emissions (lb/hr)			Emissions (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Proposed Operations</b>						
Coal Blending Project	6.70	3.17	1.00	3.40	1.61	0.506
Gypsum Loadout Project	2.94	1.33	0.226	1.53	0.438	0.084
<b>Total Change in Fugitive Emissions</b>	<b>9.64</b>	<b>4.50</b>	<b>1.22</b>	<b>4.93</b>	<b>2.05</b>	<b>0.590</b>
<b>PSD Significant Source Threshold</b>				<b>25</b>	<b>15</b>	<b>10</b>

**Table C2 - Total Class I and II HAP Emissions - Proposed Operations**

PSC Case No. 9148 - Morgantown Generating Station CPCN

HAP/TAP	TAP Class	Concentration ppm (w/w)	PM <sub>10</sub> Total		PM <sub>2.5</sub> Total	
			lb/hr	tpy	lb/hr	tpy
Arsenic	I	26	3.17E-04	1.42E-04	9.88E-05	4.44E-05
Beryllium	I	2.22	2.66E-05	1.19E-05	8.35E-06	3.75E-06
Cadmium	I	0.44	1.03E-05	4.37E-06	2.50E-06	1.08E-06
Nickel	I	22	3.13E-04	1.38E-04	9.12E-05	4.06E-05
Antimony	II	0.81	9.69E-06	4.35E-06	3.05E-06	1.37E-06
Barium	II	84.4	4.67E-03	1.92E-03	9.37E-04	3.90E-04
Chlorine	II	1900	2.27E-02	1.02E-02	7.14E-03	3.21E-03
Chromium	II	26.7	1.23E-03	5.09E-04	2.55E-04	1.07E-04
Cobalt	II	11	1.41E-04	6.28E-05	4.29E-05	1.92E-05
Copper	II	19.91	2.38E-04	1.07E-04	7.49E-05	3.36E-05
Fluorine	II	83	9.93E-04	4.46E-04	3.12E-04	1.40E-04
Manganese	II	36	2.44E-03	9.98E-04	4.76E-04	1.97E-04
Mercury	II	0.42	6.85E-06	2.99E-06	1.89E-06	8.34E-07
Molybdenum	II	16.1	1.93E-04	8.66E-05	6.05E-05	2.72E-05
Selenium	II	3.8	4.56E-05	2.05E-05	1.43E-05	6.43E-06
Silver	II	0.13	3.38E-06	1.43E-06	7.99E-07	3.44E-07
Tellurium	II	59.54	7.12E-04	3.20E-04	2.24E-04	1.01E-04
Thallium	II	0.92	1.10E-05	4.95E-06	3.46E-06	1.55E-06
Vanadium	II	30.98	3.71E-04	1.67E-04	1.16E-04	5.23E-05
Zinc	II	96.3	1.52E-03	6.64E-04	4.24E-04	1.87E-04
Lead	II	10	1.20E-04	5.38E-05	3.76E-05	1.69E-05
TOTAL HAPs			3.61E-02	1.59E-02	1.03E-02	4.58E-03

Notes:

\* - Total HAPs determined equivalent to HAPs total emissions from proposed coal blending and gypsum loadout facilities

**Table C3 - TAPS AMBIENT SCREENING ANALYSIS**

PSC Case No. 9148 - Morgantown Generating Station CPCN

TAP	TAP Class	Screening Level <sup>1</sup>			Allowable Emissions <sup>2</sup>		Actual Emissions		Compliance Demon.? with lb/hr with lb/yr	
		1-hour (ug/m3)	8-hour (ug/m3)	Annual (ug/m3)	lb/hr	lb/yr	lb/hr	lb/yr	Std.	Std.
Arsenic	I		0.1	0.0012	3.58E-04	0.44	3.17E-04	7.11E-08	YES	YES
Beryllium	I	0.1	0.02	0.0024	7.17E-05	0.88	2.66E-05	5.97E-09	YES	YES
Cadmium	I		0.02	0.0036	7.17E-05	1.31	1.03E-05	2.19E-09	YES	YES
Nickel	I		1	0.0417	3.58E-03	15.22	3.13E-04	6.92E-08	YES	YES
Antimony	II		5		1.79E-02		9.69E-06	2.18E-09	YES	
Barium	II		5		1.79E-02		4.67E-03	9.58E-07	YES	
Chlorine	II	29	14.5		5.20E-02		2.27E-02	5.11E-06	YES	
Chromium	II		5		1.79E-02		1.23E-03	2.55E-07	YES	
Cobalt	II		0.2		7.17E-04		1.41E-04	3.14E-08	YES	
Copper	II		2		7.17E-03		2.38E-04	5.35E-08	YES	
Fluorine	II	31.1	15.5		5.57E-02		9.93E-04	2.23E-07	YES	
Manganese	II		2		7.17E-03		2.44E-03	4.99E-07	YES	
Mercury	II		0.25		8.96E-04		6.85E-06	1.49E-09	YES	
Molybdenum	II		5		1.79E-02		1.93E-04	4.33E-08	YES	
Selenium	II		2		7.17E-03		4.56E-05	1.02E-08	YES	
Silver	II		0.1		3.58E-04		3.38E-06	7.15E-10	YES	
Tellurium	II		1		3.58E-03		7.12E-04	1.60E-07	YES	
Thallium	II		1		3.58E-03		1.10E-05	2.47E-09	YES	
Vanadium	II		0.5		1.79E-03		3.71E-04	8.33E-08	YES	
Zinc	II		500		1.79E+00		1.52E-03	3.32E-07	YES	
Lead	II		0.5		1.79E-03		1.20E-04	2.69E-08	YES	

Notes:

<sup>1</sup> - Compound Screening Level taken from MDE List of Screening Levels, May 2005<sup>2</sup> - Allowable Emissions determined from COMAR 26.11.16.02 and .03



*Appendix C*  
*Detailed Applicability Review for*  
*Federal and State Air Quality*  
*Regulations*

40 CFR Part	Title	Applicability	Applicable to Material Handling	Facility-Wide Applicability	Title V (Addressed/ Not Addressed)	Notes
<b>60 Subpart A</b>	<b>Standards Of Performance For New Stationary Sources -General Provisions</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	
	60.1-60.6 Applicability, definitions, administrative items	No		Yes		
	60.7 Notification and Recordkeeping	No		Yes	Yes	
	60.8 Performance Test	No			Yes	
	60.9 Availability Of Information	No				
	60.10 State Authority	No				
	60.11 Compliance With Standards And Maintenance Requirements	No		Yes	Yes	
	60.12 Circumvention	No			Yes	
	60.13 Monitoring Requirements	No			Yes	
	60.18 General Control Device Requirements	<b>No</b>	<b>No</b>	<b>NA</b>	<b>NA</b>	
	60.19 Notification and Reporting Requirements	-	-	-	-	
<b>60 Subpart Da</b>	<b>Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978</b>	<b>No</b>				The project is not a modification to the steam generating unit.
	60.40 Da Applicability And Designation Of Affected Facility					
	60.42 Da Standard For Particulate Matter					
	60.43 Da Standard For Sulfur Dioxide					
	60.44 Da Standard For Nitrogen Oxides					
	60.45 Da Standard For Mercury					
	60.47 Da Commercial Demonstration Permit					
	60.48 Da Compliance Provisions					
	60.49 Da Emission Monitoring					
	60.5 Da Compliance Determination Procedures And Methods					
	60.51 Da Reporting Requirements					
	60.52 Da Recordkeeping Requirements					
<b>60 Subpart Y</b>	<b>Standards Of Performance For Coal Preparation Plants</b>	<b>No</b>	<b>No</b>		<b>No</b>	The coal preparation plant was modified as a part of the Barge unloading project (Case No. 9031). Affected facilities under Subpart Y associated with the proposed project (i.e. conveying equipment attached to existing breaker do not constitute an increase in fugitive particulate emissions and subsequently is not a "modification" under NSPS provisions. Therefore, the provisions of this rule are not subject.
	60.250 Applicability And Designation Of Affected Facility	No	<b>No</b>		No	
	60.252 Standards For Particulate Matter - Part C	No	No		No	
	60.253 Monitoring Of Operations	No	-		No	
	60.254 Test Methods And Procedures	No	<b>No</b>		No	
<b>60 Subpart OOO</b>	<b>Standards Of Performance For Nonmetallic Mineral Processing Plants</b>	<b>No</b>	<b>No</b>	-	<b>No</b>	Gypsum loadout facility as proposed does not fit the definition of a "nonmetallic mineral processing plant" under the NSPS
	60.670 Applicability And Designation Of Affected Facility	No	<b>No</b>		No	
	60.672 Standard For Particulate Matter	No	No		Yes	
	60.673 Reconstruction	No			No	
	60.674 Monitoring Of Operations	No			Yes	
	60.675 Test Methods And Procedures	No			Yes	
	60.676 Reporting And Recordkeeping - Parts A(1)-(4), B(1)-(3), C, D, E, F, H, I, J	No			Yes	
<b>60 Subpart HHHH</b>	<b>Emission Guidelines And Compliance Times For Coal-Fired Electric Steam Generating Units - Hg Budget Trading Program General Provisions</b>	<b>No</b>			<b>No</b>	
	60.4104 Applicability	No			No	
	60.4106 Standard Requirements	No			No	

40 CFR Part		Title	Applicability	Applicable to Material Handling	Facility-Wide Applicability	Title V (Addressed/ Not Addressed)	Notes
<b>60 Subpart III</b>		<b>Standards Of Performance For Stationary Compression Ignition Internal Combustion Engines</b>	<b>No</b>			<b>No</b>	Project does not involve the installation of any Compression Ignition Internal Combustion Engines.
	60.4200	Applicability	No			No	
	60.4204	Emission Standards for NON-Emergency Engines	No			No	
	60.4205	Emission Standards for Emergency Engines	No			No	
	60.4207	Fuel Requirements	No			No	
	60.4209	Monitoring Requirements	No			No	
	60.4211	Compliance Requirements	No			No	
	60.4212	Testing Requirements for Engines with Displacement < 30 Liters	No			No	
	60.4213	Testing Requirements for Engines with Displacement > than or equal to 30 Liters	No			No	
	60.4214	Notification, Recordkeeping, & Reporting Requirements	No			No	
<b>61</b>		<b>NESHAP</b>					
	Subpart E	National Emission Standard For Mercury	<b>No</b>				Applicable only to mercury production facilities.
	Subpart M	National Emission Standard For Asbestos	<b>No</b>		Yes		No demolition or other Asbestos related activities proposed.
<b>63</b>		<b>NESHAP/MACT</b>					
	Subpart A	General Provisions	<b>No</b>				No NESHAP/MACT sources proposed
	Subpart ZZZZ	National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines	<b>No</b>			No	
<b>64</b>		<b>Compliance Assurance Monitoring (CAM)</b>	<b>No</b>		Yes	<b>No</b>	NA to project
<b>68</b>		<b>Chemical Accident Prevention Provisions</b>	<b>No</b>			<b>Yes</b>	NA to project
<b>72-74</b>		<b>Permits Regulation (Acid Rain Program)</b>	<b>No</b>			<b>Yes</b>	NA to project
<b>75</b>		<b>Continuous Emissions Monitoring System</b>	<b>No</b>			<b>Yes</b>	NA to project
<b>76</b>	76.1-76.15	<b>Acid Rain Nitrogen Oxides Emission Reduction Program</b>	<b>No</b>			<b>Yes</b>	NA to project
<b>77</b>	77.1-77.6	<b>Excess Emissions</b>	<b>No</b>			<b>Yes</b>	NA to project
<b>82</b>	82.1-82.24	<b>Protection of Stratospheric Ozone</b>	<b>No</b>			<b>Yes</b>	NA to project

\*Table does not include all federal air citations. The table includes requirements from 40 CFR that were considered in the applicability review for the Morgantown Coal Blending/ Gypsum Barge Loadout CPCN Case 9148

Mirant Morgantown Applicable Requirements Review

COMAR 26.11 Department of the Environment

Chpt	Sub.Sec		Applicability	App to Material Handling	Applicable to Whole Facility	Already in Title V? Yes/No	Notes
01	-	<b>General Administrative Provisions</b>					
	04	A.Compliance Testing, B.Requirements for Monitoring, C.Emissions Test Methods	Yes		Yes	Yes	No Conditions required, Covered in Title V
	05-1	Emissions Statements (Charles County - Source Exceeding 25 TPY NOx or VOCs)	No		Yes	Yes	No NOx or VOC sources associated with coal blending / gypsum barge loadout project
	07	Malfunctions & Temporary Increases of Emissions (Reporting Excess Emissions)	No		Yes	Yes	
	08	Determination of Ground Level Concentrations (Acceptable Techniques)	No		Yes	Yes	Project does not trigger the requirements of PSD/NSR, no additional modeling required.
	10	Continuous Emissions Monitoring	No				
	11	Additional CEM Installation Requirements	No			Yes	A new 400 feet stack will be installed as a part of the project requiring installation of additional CEMS.
02	-	<b>Permits, Approvals, and Registration</b>					
	02	Source Registration, Construction Permits, Part 70 Permits, Certification	Yes	Yes			Part D
	04	Duration of Permits	Yes				Part A
	09	Sources Subject to Permits to Construct and Approval - <b>Parts A(1-3)</b>	No				Exempt as EGU
	11	Procedures for Obtaining Permits to Construct Certain Significant Sources - <b>Parts A(1)(b) &amp; A(2)(c)</b>	No				Project is not a NSPS, HAP, or PSD source and will not emit 25 tpy or more of any pollutant.
	12	Procedures for Obtaining Approvals of PSD Sources and NSR Sources, Permits to Construct, Permit to Construct MACT Determinations On a Case-by-Case Basis in Accordance with 40 CFR Part 63, Subpart B, and Certain 100-Ton Sources.	No				Project is not PSD or NSR source
	13	Sources Subject to State Permits to Operate	No				Coverd by Part 70 Title V Permit No. 24-017-00014
03	-	<b>Permits, Approvals, and Registration -- Title V Permits</b>					
	01	Applicability and General Requirements (Part 70 Permits, applicability: major source)	Yes			Yes	
	02	Applications for Part 70 Permits	Yes			Yes	
	03	Information Required as Part of Application for a Part 70 Permit	Yes			Yes	
	07	Public Participation Procedures	Yes			Yes	
	13	Issuance and Renewal of Part 70 Permits	Yes			Yes	
	14	Revision of Part 70 Permits -General Requirements	Yes			Yes	
	15	Administrative Permit Amendments	No			Yes	
	16	Minor Permit Modifications	No			Yes	
	17	Significant Permit Modifications	Yes			Yes	Addition of a CPCN condition for significant modification of the Title V permit to include eht FGD and new stack operations.
	18	On-Permit Changes to Sources	Yes			Yes	

Mirant Morgantown Applicable Requirements Review

COMAR 26.11 Department of the Environment

Chpt	Sub.S ec		Applicability	App to Material Handling	Applicable to Whole Facility	Already in Title V? Yes/No	Notes
	19	Off-Permit Changes to Sources	Yes			Yes	Addition of a CPCN condition for minor modification of the Title V permit to include coal blending / gypsum barge loadout project material handling operations.
04		<b>Ambient Air Quality Standards</b>	Yes			Yes	
05		<b>Air Pollution Episode System</b>	Yes			Yes	
06		<b>General Emission Standards, Prohibitions, and Restrictions</b>					
	02	Visible Emissions - <b>Part C1</b>	No		Yes		Proposed Sources to be in compliance with Regulation .03D of this chapter.
	03	Particulate Matter - <b>Part D</b>	Yes	Yes		Yes	
	04	Carbon Monoxide In Areas III And IV	No				No NOx or VOC sources associated with coal blending / gypsum barge loadout project
	05	Sulfur Compounds From Other Than Fuel Burning Equipment	No				No Proposed fuel burning equipment associated with Project.
	06	Volatile Organic Compounds	No				No VOC sources proposed
	07	Control Of Sources Of Fluoride Emissions	No				No fluoride emissions proposed
	08	Nuisance	Yes		Yes	Yes	
	09	Odors	Yes		Yes	Yes	
	10	Refuse Burning Prohibited In Certain Installations.	No				No Refuse burning proposed
	12	Control of NSPS Sources	No				No NSPS sources proposed, Both Subpart Y and OOO not applicable.
	14	Control of PSD Sources	No				Not a PSD source
	15	Nitrogen Oxides From Nitric Acid Plants	No				NA
07		<b>Open Fires</b>	No			Yes	
08		<b>Control of Incinerators</b>	No				
09		<b>Control of Fuel-Burning Equipment, Stationary Internal Combustion Engines, and Certain Fuel Burning Installations</b>	No				No fuel burning equipment or combustion engines proposed as part of project.
	03	General Conditions For Fuel-Burning Equipment	No			Yes	
	04	Prohibition Of Certain New Fuel Burning Equipment	No				
	05	Visible Emissions - <b>Parts A(1), B(2), B(3)</b>	No				
	06	Control of Particulate Matter - <b>Part A(1) (boilers only)</b>	No			Yes	
	07	Control of Sulfur Oxides From Fuel Burning Equipment - <b>Part A(1)(a), B(1), C (dep on Consent Decree)</b>	No			Yes	
	08	Control of NO <sub>x</sub> Emissions for Major Stationary Sources - <b>Parts A(1)(c), B, C</b>	No			Yes	No changes in NOx emissions from the project.
10		<b>Control of Iron and Steel Production Installations</b>	No				
11		<b>Control of Petroleum Products Installations, Including Asphalt Paving and Asphalt Concrete Plants</b>	No				
12		<b>Control of Batch Type Hot-Dip Galvanizing Installations</b>	No				
13		<b>Control of Gasoline and Volatile Organic Compound Storage and Handling</b>	No				
14		<b>Control of Emissions from Kraft Pulp Mills</b>	No				

Mirant Morgantown Applicable Requirements Review

COMAR 26.11 Department of the Environment

Chpt	Sub.Sec		Applicability	App to Material Handling	Applicable to Whole Facility	Already in Title V? Yes/No	Notes
15		Toxic Air Pollutants	No				
16		Procedures Related to Requirements for Toxic Air Pollutants	No				
17		Requirements for Major New Sources and Modifications					
	03	General Conditions - Parts A,B1,B2,& B3a (LAER, Emissions Offsets at a Ratio of 1.3:1 for VOC & NOx)	No				
	04	Baseline for Determining Credit for Emission and Air Quality Offsets - Parts A-C	No				
	05	Administrative Procedures - Parts A&B	No				
18		Control of Agriculturally Related Installations	No				
19		Volatile Organic Compounds from Specific Processes	No				
20		Mobile Sources	No				
21		Control of Asbestos	Yes				
22		Vehicle Emissions Inspection	No				
23		Asbestos Accreditation of Individuals, and Approval of Training Courses	No				
24		Stage II Vapor Recovery at Gasoline Dispensing Facilities	No				
25		Control of Glass Melting Furnaces	No				
26		Conformity	No				
27		Post RACT Requirements for NO(x) Sources (NO(x) Budget Program)	No			Yes	
28		Policies and Procedures Relating to Maryland's NO(x) Budget Program	No			Yes	
29		NO(x) Reduction and Trading Program (applicant has not specified whether they will participate)	No			Yes	
30		Policies and Procedures Relating to Maryland's NO(x) Reduction and Trading Program	No			Yes	
31		Small Business Pollution Compliance Program	No				
32		Control of Emissions of Volatile Organic Compounds from Consumer Products	No			Yes	